1982
ANNUAL
REPORT

ANIMAL INDUSTRY DIVISION

AGRICULTURE

1982

ANNUAL REPORT

ANIMAL INDUSTRY DIVISION

ALBERTA AGRICULTURE

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ANIMAL INDUSTRY DIVISION

The Animal Industry Division consists of five branches, the activities of the Division are noted in the branch reports. The Division responded to the needs of producers and agribusiness concerned with production and marketing of meat producing animals and poultry.

The Division activities included extending technical information to producers and agribusiness, solving production problems, liaising with other segments of government to improve services to producers, administering and updating acts and regulations in concert with industry requirements, as well as advising on and participating in pertinent applied research projects.

BEEF CATTLE AND SHEEP BRANCH

I. Industry Overview

A. Beef Cattle

The second quarter of 1982 started with a brief flurry of optimism for beef producers. Grade A1-2 slaughter steer prices in Calgary rose from just over $70.00 per hundredweight to peak at a weekly average of $87.00 per hundredweight in early June. In the next three weeks slaughter prices fell sharply. By early July A1-2 slaughter prices had dropped to a weekly average of $74.00 per hundredweight and by the end of the year Calgary A1-2 slaughter steer prices had bottomed at $65.00 per hundredweight. In the first quarter of 1983 slaughter prices began an uneven recovery. By March 31, A1-2 slaughter steer prices in Calgary averaged $73.00 per hundredweight for the week.

While prices for finished cattle ended the fiscal year at levels near the previous year, other economic factors such as feed and interest costs had reduced considerably. Elevator bid barley prices fell from $105.00 per tonne late June to the low $70.00 range by mid-September 1982. Easing of cost pressure allowed cattle feeders to strengthen their bids for feeder cattle. In the second quarter of 1982, feeder steer calf prices in Edmonton rose from $70.00 to $85.00 per hundredweight. For the remainder of the year prices for steer calves remained steady in the $79.00 to $83.00 per hundredweight range. This represented a premium of nearly $10.00 over slaughter prices in the third quarter, and roughly 8.00 over

calf prices received by producers in the same period of 1981. Feeder calves maintained a premium of more than $10.00 per hundredweight over finished cattle prices through the first quarter of 1983. On March 31 average price for the week in Edmonton was $85.00 per hundredweight, nearly $20.00 more than the price paid for similar calves a year earlier.

The depressed prices for feeder calves early in 1982 resulted in a continued sell off of cows and heifers. In the summer and early fall of 1982 cow slaughter in Alberta was running 25% higher than the previous year. Heifer slaughter was also about 2% above the same period in 1981. For the calendar year 1982 there were 9.3% more cows and 3.7% more heifers slaughtered in Alberta than in the previous year, an indication that reduction of the beef cow herd was continuing.

Alberta beef cow numbers for January 1, 1983 were estimated at 1.31 million head, down 5.4% from the previous year. In fact, the Alberta beef cow population is the lowest since 1971 when it stood at 1.27 million head.

There is a concern in the beef industry that the current economic situation, changing life styles and competition from other protein sources are eroding the demand for beef. To counter these factors the Alberta Cattle Commission and the Canadian Cattlemen's Association initiated an extensive beef promotion campaign in 1982-83. Alberta Agriculture also provided a grant of one million dollars to help support the industry effort to sustain the demand for beef.

During the year there was considerable discussion and debate in

the beef industry concerning the issues of red meat income stabilization and the effects of various proposals to change the Crows's Nest Pass statutory rates for grain transportation.

B. Sheep

The Canadian sheep and lamb numbers were estimated at 816,900 July 1, 1982, up 3% from 790,000 a year previous (Table 1). This was due to a 1% increase in the west and a 5% increase in the east. Sheep one year of age and over increased by 7% and lambs under one year old decreased by 1%.

Table I. Sheep: Number on Farms in Alberta

July 1, 1981 and 1982

	Total Sheep and Lambs (1000's head)		
	1981	1982	1982/1981 Percent
Alberta	196.8	205.0	104
Eastern Canada	416.6	437.2	105
Western Canada	373.6	379.0	101
CANADA	790.2	816.9	103

Source:

Statistics Canada Quarterly Report on Livestock Surveys

Alberta's sheep population continued to increase. The total sheep and lamb numbers, July 1, 1982 were 205,000, up 4% from July 1, 1981. The 1981 Canadian census recorded Alberta total sheep and lamb numbers at 201,300. Sheep one year old and older, usually considered an estimate of breeding males and females, was 106,000, July 1, 1982, up 11% from the previous year.

Alberta's slaughter at federally and provincially inspected sheep and lamb plants in 1982 was 79,042 head up from 57,804 in 1981, higher than any other province in Canada.

Imports of dressed lamb and mutton in Canada in 1982 increased by 7% to 22.7 million pounds compared to the 1981 level of 21.2 million pounds.

Imports of slaughter sheep and lamb from the United States into Alberta increased sharply to 6,794 head from 1,768 head in 1981. Exports of feeder sheep and lambs from Alberta to the United States was 5,625 head.

The profitableness of lamb production continued to decline in 1982 due to low slaughter lamb prices. Lambs (A & B +80 lbs) in Edmonton averaged $62.39, $68.58, $59.70 and $54.34 per hundred weight for the first, second, third and fourth quarter, respectively. The top price paid for quality shrunk lambs, weighing between 95 - 105 lbs at Lambco was generally below 1981 prices ranging from $66.35 - $68.54 for 1982 and $64.13 - $69.56 for the previous year.

C. Animal Reproduction

The total number of cattle bred by licensed inseminators continued to decline in Alberta as more cattlemen inseminate their own cows. This trend was not prevalent across Canada as most inseminating businesses have reported modest increases in services, particularly in the dairy cattle breeds. The increase in wages and mileage caused increases in the service fees charged by inseminators in the province. Semen costs have also increased resulting in higher costs for artificial insemination services. The decline of A.I. by

commercial technicians is not indicative of use trends for A.I. in Alberta. The trend has and continues to be a shift from commercial A.I. to producers inseminating their own cows.

The A.I. industry continued to be healthy across Canada with record semen sales at home and overseas. Canadian artificial insemination studs continued an excellent reputation around the world for quality sires and semen.

In the embryo transfer industry, recent developments in freezing and splitting embryos have led to encouraging results. Three embryo transfer businesses in Alberta are now freezing embryos for domestic and export market. In addition, one embryo business has been successful in splitting embryos into two halves increasing the chance of getting two calves from one original embryo.

DAIRY AND BEEF COWS BRED ARTIFICIALLY
BY LICENSED INSEMINATORS IN ALBERTA

YEAR	NO. OF DAIRY COWS	DAIRY COWS BRED TO DAIRY BULLS		NO. OF BEEF COWS	BEEF COWS BRED TO BEEF BULLS	
		No.	%		No.	%
1976	168,000	25,623	15.2	1,500,000	25,926	1.7
1977	155,000	18,557	12.0	1,555,000	10,758	0.7
1978	148,000	26,198	17.7	1,470,000	15,273	1.0
1979	140,000	27,804	19.9	1,380,000	15,516	1.1
1980	140,000	23,541	16.8	1,515,000	12,931	0.8
1981	158,000	18,995	12.0	1,385,000	8,920	0.6
1982	160,000	16,015	10.0	1,310,000	9,285	0.7

The Semen Evaluation Laboratory at Airdrie handled 918 samples of semen from a number of species during the period April 1, 1982 - March 31, 1983 as follows:

SPECIES	1981 - 82	1982 - 83
Cattle	1000	866
Horses	5	10
Fish	13	0
Sheep	5	2
Dogs	2	0
Swine	54	37
Turkeys	2	1
Humans	0	2
TOTAL	1081	918

Many of the semen samples submitted to the laboratory were from animals suspected of producing semen of inferior quality. The source of cattle semen and number of samples evaluated as being sub-standard are listed below:

SOURCE OF SEMEN	No. of Samples		No. of Sub-Standard	
	1981-82	1982-83	1981-82	1982-83
A.I. Studs	575	661	163	300
Inseminating Businesses	23	32	14	19
Private Breeders	28	85	16	30
Breed Associations	9	0	0	0
Alberta Agriculture	365	80	247	47
Embryo Transfer Businesses	0	8	0	5
TOTAL	1000	866	440	401

The 866 doses of bull semen evaluated indicated 401 samples or 46% did not meet all of the standards set out by the A.I. industry.

Of the 52 samples received from species other than cattle, 39 or 75% were considered sub-standard.

D. Beef Breeding

Despite some improvement in feeder cattle prices, both the commercial and purebred breeding sectors have shown considerable restraint. Interest in details or programs designed to reduce costs or increase returns seemed to be higher than usual. Bull sales in particular seemed to show this trend where "fat two year olds" faced

a very tough market but performance tested yearlings sold readily. Correlations between performance and price at the test stations sales were high and general interest in performance related traits at all sales seemed to take precedence over traditional pedigree and eye appeal selection.

1982 saw the beginning of the new Federal-Provincial Beef ROP program. This program was wrought with difficulties from the outset and widespread producer dissatisfaction with the program was evident.

Interest in raising bison and elk increased, especially in the green zone and parkland agriculture areas. One major game ranch continued at the Metis Settlement of Kikino. It was monitored by Agriculture and Fish and Wildlife. Nine square miles were fenced and on March 31, 1983 there were 35 bison (yearling and mature), 20 elk and 3 moose on inventory.

The number of breeding female bison in Alberta increased substantially as several new breeders began operations and others continued to expand their herds.

E. Nutrition

Weather again had a significant influence on the cattle industr in Alberta in 1982-83. The dry spring and early summer in the north half of the province following a cold long winter led to a decreased level of reproductive performance in the beef herd. Veterinarians reported higher than normal levels of open cows in the fall of 1982. As a result of the dry conditions, the Nutrition Section conducted a major extension program to encourage producers to arrange for alternate feed sources for the winter of 1982-83. Fortunately a combination of sufficient late season rain to produce adequate forage crops from cereals, second-cuttings of perennial forages and a mild winter allowed the provincial cow herd to come through the winter of

1982-83 in relatively good condition. Claims for assistance under the Feed Freight Assistance Program were much lower than had been anticipated during the summer of 1982.

Decreased prices for feed grains coupled with declining interest rates early in 1983 allowed feedlot operators to purchase feeders on a negative margin. Lower grain prices have led to feeding higher levels of grain. This, in combination with the mild winter, led to many finished cattle coming to market earlier than normal.

A number of problems were encountered with calcium-phosphorus imbalances in cow herds being fed straw-grain or cereal silage-grain rations. With inadequate calcium supplementation these rations lead to a calcium deficiency because the ration contained more phosphorus than calcium. Most producers tended to supplement with a mineral containing equal amounts of calcium and phosphorus, probably because the importance of phosphorus had been stressed in the past. The need to consider the ratio of calcium to phosphorus in rations required additional emphasis.

Both dairy and beef producers are becoming more aware of the need for trace mineral supplementation.

Problems associated with harvesting and storage of high quality forage remains a major obstacle to high milk production and good reproduction in dairy herds. A study conducted this year by the Nutrition Section found that within a forage type, dairy feeds had the same nutrient content as the provincial average. The nutrient value of a substantial proportion of forage samples were reduced because of heat damage. This heat damage was usually the result of either storing silage too dry or hay too wet.

This year dairy producers had to adjust from a situation of unrestricted quotas to quota reductions. This led to many enquiries by producers seeking advice on feeding and management strategies to cope with this change.

1982-83 was generally a very good year for swine production. The main problem addressed in swine nutrition was the problems of inadequate energy, protein and macro and/or micro minerals in rations for different classes of pigs. This problem was mainly encountered in situations where producers were home mixing rations and associated with calibration problems with equipment. Both producers and agribusiness enquired about amino acid composition and availability in grains and other feed ingredients, and supplemental protein levels required when amino acids are considered.

During the year a few cases of copper toxicity occurred in sheep. A number of the problems with copper toxicity were the result of mixing errors in feed mills. There were a few cases of selenium toxicity in new born lambs as a result of injecting too much selenium. Apart from these concerns, 1982-83 was a fairly normal year for the sheep industry from a nutrition viewpoint.

In some herds there appeared to be some reproductive problems associated with plant proestrogens and isoflavones. Abortions and abnormally strong estrus cycles in sheep and goats were reported by several producers.

In the northern region of the province several cases of dicoumerol poisoning occurred as a result of feeding moldy sweet clover to livestock.

The Nutrition Sections' involvement with goat producers

continued to increase. The main need for goat producers continues to be for good basic nutrition information. In addition staff has continued to be involved with questions and problems about rabbits, foxes, wild ruminants and dogs.

F. Regional Summary Statement

Region 1 - Lethbridge

Beef and sheep enterprises have virtually held their own this year. No significant change in primary producers. Sheep have attracted a few new producers but number increase was small.

Lakeside Packers started two shift slaughter in the fall and continued through the spring. Output increased with a large part of the increase going across the border south.

The Gainers plant closed temporarily (needed major maintenance). Effect was not great on the packing industry.

Region II - Airdrie

In the past year cattle feeders had one of their most profitable years in quite some time. The present year started out optimistically, however, with low grain prices and high volume of grain many producers retained calves to feed out themselves.

The Calgary stockyards realigned their organization to be one commission only. The volume through the market was still quite low, but the firm maintained operation.

There were several closures of Agriculture enterprises in the area. The most significant to the livestock industry was the smaller of the two XL packers plant in Calgary and the Stavely Auction Mart.

Region III - Red Deer

Factors affecting livestock production in the region included the following:

Positive Factors:

1. Input costs dropped for feeding beef. These included mainly feed costs due to lower barley prices and lower interest rates.
2. Cattle fed on farms increased in an attempt to improve cash flow by processing grain through livestock. Negative Factors:

1. Crow Rates.
2. Fed beef prices rose to a sharp peak in June then continued to drop for the balance of the year.
3. Wet feedlot conditions through the summer reduced gains and created problems in most lots.
4. A major feed mill in the Red Deer area was destroyed by fire.
5. There was an increase in the number of open cows this fall mainly due to a cold winter and insufficient energy in the rations during breeding.

Region IV - Vermilion

Winter weather in January-March 1982 was severe and had a negative effect on cattle conditions and general health, increased feed requirements at a time when good feed was in low supply. Once cattle went on pasture, grass growth was minimal due to the drought conditions. These negative factors added up to a reduction in breeding efficiency and calf crop in the spring of 1983. A large supply of straw was stored for the fall of 1982 for winter use.

Weather conditions were mild throughout the winter of 1982-83. Cattle in general were in good condition in March 1983 but some individual herds required improvements in feeding management.

Market prices offered some encouragement. There were indications that cattle numbers increased on farms in N.E. Alberta.

Mineral deficiencies were problems in some areas and were related to forced alternate feeding practices due to hay shortage. The use of trace minerals spread rapidly resulting in improved livestock performance.

Region V - Barrhead

Factors affecting livestock production in the region included the following:

Positive:

1. A relatively mild winter enabled livestock producers to effectively winter their stock on less feed than was required in most winters.
2. Interest rates moderated.
3. More producers were interested in custom feeding cattle locally.

Negative:

1. Spring 1982 weather was hot and dry resulting in poor summer pasture and low yields of hay. Some areas like Athabasca, Westlock, Thorhild and Sangudo made effective use of the Alberta Feed Freight Assistance Program.
2. Early fall frosts resulted in feed barley of exceptionally low bushel weight.

3. Some dairy producers in March were shipping over quota because of cutbacks from the Dairy Control Board.

Region VI - Fairview

A dry spring and early summer produced generally poor hay crops throughout the region. Rains in July brought a great deal of second growth in cereal crops with the result that many herds were wintered on cereal greenfeeds and/or good quality straw. With a mild winter; feed supplies were generally adequate. Spring moisture for pasture and hayland was generally adequate, however in a region which relies heavily on runoff to fill dugouts; the long term summer reserve was very low.

Beef cow numbers reduced slightly in the region.

Over the last several years and continuing into this breeding season, more Texas Longhorn bulls were used, particularly on heifers, but in some cases on entire herds, with a view to reducing calving problems and producing cattle which require less maintenance/labor.

The South Peace and North Peace Forage Association were both positive influences in forage management with their projects in the past year.

II PROGRAMS

A. Record of Performance (R.O.P.)

The ROP program was developed for both commercial and purebred producers to assist them in maximizing greater economic returns from their herd or flock by having a testing program which would facilitate the identification and selection of breeding animals which

express superior performance for economically important and heritable traits.

1. Beef Cattle

a) Home Test

Approximately 500 herds and 32,000 cows were enrolled in the new Federal-Provincial Beef ROP program. Enrollment was similar to 1981, however, 1/3 of the herds enrolled (160 estimated) did not complete a weaning report.

Year	Herds Completing Weaning Report
1978	687
1979	632
1980	559
1981	480
1982	300 (estimate)

Supplementary to the home test program technicians were provided under the ROP Weight Supervision Program to assist farmers to record fall weaning weights and spring yearling weights. During the fiscal year of 1982, technicians assisted with 22,249 weaning weights, down from 26,000 in 1981, and 13,249 yearling weights down 4,000 head from the previous year. Approximately 570 farms participated in the program at a total costs of $38,500 down $1,500 from the previous year.

b) Bull Test Stations

Eighteen separate testing agencies operated bull test stations in the province in 1982-83. Some 1600 bulls were tested for growth rate from weaning to yearling and in most

cases the top performers were offered for sale to the public. These sales were generally well supported. Fourteen of these stations used some/or all of the department support available to them in terms of consultation, supervision and calculation and distribution of results.

The Beef Cattle and Sheep Branch continued to operate the Ellerslie Bull Test Station with a full complement of 200 bulls. Nominations for some 70 - 80 bulls were turned down because of lack of space. A feature of this years test was the testing of replicate groups of U of A bulls in the "pin-pointer" (feed conversion machine) barn and the hand-fed barns.

The auction sale was held at the conclusion of the test. Fifty-eight bulls were sold for an average of $1840.00.

2. Sheep

a) Home Test

The sheep ROP home test enables producers to evaluate wether, ram and ewe lamb rates of body weight gain from birth to 50 and 100 days of age. Fifty and 100 day lamb weights are adjusted for age of ewe, sex, and type of birth and rearing (single, twin, triplet, etc) to enable comparisons between lambs. Ewe index based on productivity is also provided.

The number of breeders enrolled on the program increased from 49 in 1981 to 62 in 1982. Complex input forms and slow turn around time continued to restrain producer enthusiasm for the program. The general trend indicated commercial producers are dropping off the program because of the large amount of time

required to weigh and record data. Purebred enrollments however, over the past 5 years, have increased. Part of this increase may be due to mandatory ROP enrollment for entry to class A shows. Most purebred producers however now accept the home test program as a useful genetic tool in flock improvement.

The following is a summary of enrollment in the program by breed since 1978.

BREED	1978	1979	1980	1981	1982
Suffolk	870	1821	1271	1913	1929
Hampshire	23	138	369	229	469
Lincoln	---	---	7	---	---
N.C. Cheviot	59	148	187	327	282
Rambouillet	4	68	162	167	217
Columbia	24	77	89	98	177
Dorset	54	127	177	327	99
Leister	---	---	7	---	---
Corriedale	28	3	---	19	30
Scottish Blackface	5	---	13	20	---
Finnish Landrace	---	81	59	247	54
Other Purebreds	---	---	30	39	42
Crossbreds	121	785	592	995	455
TOTAL	1188	3248	2963	4381	3754

b) Alberta Sheep ROP Test Station

The eighth consecutive year of the ram test station was completed in 1982. The test was conducted at the facility on Olds College Campus. Sheep were entered on test, beginning the last week of February and every two weeks thereafter on 3 more entry dates.

Twenty-eight breeders entered 115 sheep at the station. Lambs were grouped according to entry date and breed and tested for weight gain for 56 days. Measurements on back fat thickness, wool yield and wool quality were also recorded.

Animals which indexed above 100 for average daily gain and

which met the rigorous requirements of a culling committee were sold at the test station sale at the college on July 3rd.

The following is a summary of the 1982 test and sale results:

BREED	NUMBER TESTED	ADG(kg/day)	NUMBER SOLD	AVERAGE PRICE	HIGH PRICE
Suffolk	81	.47	34	$430.00	$1,100.00
Hampshire	15	.46	7	$301.00	$ 475.00
Dorset	14	.40	6	$290.00	$ 375.00
Columbia	3	.41	1	$250.00	$ 250.00
Rambouillet	2	.48	1	$270.00	$ 270.00

The following is a summary of test station results since 1978:

	1978	1979	1980	1981	1982
Breeders on Program	16	17	17	23	28
Sheep tested	155	123	101	102	115
A.D.G. (Suffolk rams)	0.42kg	0.49kg	0.48kg	0.48kg	0.47kg
Head Sold	57	52	44	40	49
Average Price (rams)	$275.00	$331.00	$323.00	$475.00	$387.00
Top Price	$1050.00	$675.00	$520.00	$774.00	$1100.00

B. Alberta Young Sire Proving Program

Two testing groups operated progeny testing programs in Alberta in 1982. Only one group applied for assistance during the fiscal year (Alberta Hereford Sire Test). They proved seven bulls at a cost of $5625.00.

The program was changed in 1982 to increase the Alberta Agriculture share to $1250.00 per bull tested.

Grants under this program totalled $15,750 in the 1981-82 fiscal year.

C. Warble Control Program

The warble control program assists the primary beef producer to improve his operation and financial position by reducing the damaging effects of warble grubs. Warbles reduce the value of hides and carcass and increase the producer's production costs.

The 1982-83 fiscal year saw a continued emphasis by department staff and Agricultural Service Boards across the province on contacting herd owners who had sold warble infested cattle, for the purpose of enforcing the Agricultural Pests Act. For the first time in 1982, a cooperative procedure was developed with Agriculture Canada Health Inspectors to tag warble infested cattle in packing plants. Plant staff tabulated information on contributors of infested cattle. This information was forwarded to the Livestock Pest Specialist. The information was, in turn, forwarded to Agricultural Service Board fieldmen to support their enforcement activities. All parties found the procedure satisfactory and it was continued in 1983.

The campaign for warble control is showing encouraging progress. In 1982, 7% of carcasses were infested with warbles compared with 14% in 1980, the last year province wide data was available. This compares with a base of 44% infested carcasses in 1968, before the Warble Control program was started in Alberta.

The department grants local governments 60% of their warble control program costs and pays the cost of maintaining warble inspectors in auction markets and stockyards.

Warble Control Program Costs

	1977	1978	1979	1980	1981	1982
Costs	$83,257	$102,259	$120,259	$131,932	$140,143	$149,316
Increase		23%	17%	10%	6%	7%

D. Fair Assistance Program

The department provides assistance to Alberta livestock breeders who show breeding stock at major international class exhibitions outside of the province. The purpose is to insure that potential customers from other provinces and countries become familiar with the high quality breeding stock available in Alberta; and that Alberta breeders have an opportunity to compare their stock with others' and make personal contact with potential customers. In 1982-83, 245 Alberta exhibitors showed an estimated 960 animals at 5 international class shows.

In the 1982-83 show season Alberta exhibitors won major championships at the National Western Livestock Show in Denver, the Toronto Royal Agricultural Winter Fair and the Canadian Western Agribition in Regina.

Livestock Fair Assistance Program
Grants Paid to Alberta Exhibitors
(number of exhibitors shown in brackets)

Fair	1978-79	1979-80	1980-81	1981-82	1982-83
P.N.E.	$26,776 (39)	$27,142 (51)	$29,142 (61)	$36,078 (63)	$30,120 (40)
Royal	3,475 (11)	8,600 (13)	9,300 (16)	9,780 (16)	12,940 (23)
Agribition	20,952 (108)	25,219 (95)	50,085 (127)	51,845 (132)	50,410 (145)
Denver	2,100 (5)	11,300 (10)	17,200 (15)	22,200 (32)	18,800 (31)
Brandon				3,685 (8)	3,310 (6)
Total	$53,303 (163)	$72,261 (169)	$105,727 (219)	$123,588 (251)	$115,580 (245)

P.N.E. - Pacific National Exhibition, Vancouver

Royal - Toronto Royal Agricultural Winter Fair

Agribition- Canadian Western Agribition, Regina

Denver - National Western Stock Show, Denver

Brandon - Canadian National Sheep Classic, Brandon

E. Livestock Production Improvement Program

In the 1982-83 fiscal year Agricultural Service Boards were given grants totalling $69,911 to cover 60% of their costs of programs to promote improved livestock production in their districts. Support is given for demonstrations to promote transfer of new technology or towards the purchase of special livestock equipment for loan or rental to local livestock producers.

Grants under this program in the five previous years were $34,114, $26,476, $19,753, $15,603 and $5,739 respectively.

F. Ration Advisory Service and Feed Testing Laboratory

As in the past, much of the work done by the Nutrition section was closely associated with the feed testing laboratory of the Agricultural Soil and Feed Testing Laboratory (A.S.F.T.L.). The following report of the activities of the laboratory and the ration advisory service provides statistics and comments on services provided during the fiscal year 1982-83. Comparative data for years prior to 1981 are given on a calender year basis.

Total Samples Analysed

During the 1982-83 fiscal year, a total of 14,457 feed samples were received for analysis (Table 1). This was an increase of 4,764 samples (49%) over 1981-82. The actual number of samples analysed by the

laboratory was larger than this total, because this total does not include duplicate or repeat analyses on some samples.

Regular or fee samples, those submitted by producers, are charged fees for the analyses. Twenty-six percent of the samples received in the 1982-83 fiscal year were classified as regular samples (Table 2). The actual number of regular samples analysed increased by 614 from the previous year but remained about 1000 samples below the long term average. In addition to increased regular sample volume through A.S.F.T.L. in the past year, there is evidence to suggest that producers are continuing to use private feed testing services in increasing numbers. This means that the use of feed testing across the province is continuing to increase. In the 1982-83 fiscal year the proportion of research samples analysed increased markedly to 60% of the total samples analysed. This is indicative of the increased research work being done by the department. About 1,750 of the samples received at A.S.F.T.L. were analysed at private laboratories in Alberta on a fee for service basis. Most of these samples were from the research category. The number of diagnostic (demonstration) samples submitted, declined by 140 from the previous year, representing 14% of total samples, down from 22% in the previous year. Samples in this category are submitted mainly by department staff who are involved in problem identificiation with individual producers or for demonstrating the usefullness of feed testing to producers.

The volume of regular samples peaked during October and November of 1982, about a month later than 1981. However this year's distribution of sample submissions was similar to the long term pattern.

Fifty-six percent of the total regular samples were received during the months of October, November and December. A similar pattern exists for private laboratories. Extension staff will continue to encourage producers to submit their samples earlier. This has the combined effect of spreading out the sample flow and getting more timely results to producers.

Table 4 shows a breakdown by feed type of the regular samples received throughout the year. Among the samples received, 31% were classified as grains, 56% as roughages and 13% as silages. This distribution of sample types was similar to the past years.

Types of Analyses Performed

The distribution of the types of analyses performed has been broken down by sample type (Table 5) and by total numbers of the different analyses (Table 6). A regular analysis of roughages and silages consisted of moisture, calcium, phosphorus, acid detergent fibre, nitrates and, in the case of silages, pH. A regular analysis of grains consisted of moisture, crude protein, calcium and phosphorus. A bushel weight was also determined on whole grain samples. Special analyses which were conducted in 1982-83 are shown in Table 5 and 6.

The total number of special analyses performed is continuing to increase. Much of the current interest continues to be in the area of trace minerals. The volume of samples analysed for trace minerals plus magnesium, potassium, sodium, and sulphur in the past three years gives an increasingly clear picture of the status of these minerals in Alberta feeds. It is of interest that in the past two years a significant number

of analyses for copper, manganese, zinc, magnesium and potassium have been requested for regular sample submissions. This is a good indication of increasing producer awareness of the importance of these minerals in livestock nutrition. However producer awareness of the use of acid detergent insoluble nitrogen (ADIN) as an indicator of heat damage in forages and of possible problems of sulphur shortages still require further extension efforts. The importance of the influence of heat damage to forages and its effects on feeding value were emphasized at meetings on forage quality during the winter of 1982-83. Continued extension efforts are needed on this aspect of ruminant nutrition.

Producer interest in trace minerals has been stimulated by both research and feed analyses. A continued expansion of the number of analyses and range of elements analysed is anticipated.

Ration Recommendations

As in the past, general recommendation and comments were included with the analytical results of each feed test report. In the 1982-83 fiscal year a total of 2,383 feed reports (Table 7 and 8) were evaluated. These reports included the analytical results of 5,827 individual feed samples. The total number of reports declined from the past year but the total number of feed samples increased. Overall the decline occurred in demonstration submissions while the volume of regular submissions increased.

Specific ration recommendation requests directly from producers or from department staff on behalf of producers are shown in Tables 7 and 8. The recommendations made by Nutrition Section staff and by Horse Industry Branch staff for horses are based on the results of the feed analyses and

the information supplied by or on behalf of the producer. Each individual request usually entails detailed ration recommendations for more than one type of animal and level of production. As a result, several rations or ration alternatives, were prepared for each request. In 1982-83, twenty percent of the regular reports and 11% of the demonstration reports required detailed ration recommendations. The total number of requests was 413 as compared with 367 in the 1981-82 fiscal year. The proportion of regular reports requiring detailed ration recommendations is about the same as in past years. The proportion and number of demonstration reports for which detailed ration recommendations were made was markedly lower than in the past two years. This is the direct result of a reduction in the number of special studies being done by department staff and the completion of our work with the Home Study Course in 1981.

The number of requests for beef, dairy, swine and horse ration recommendations all increased for regular reports in 1982-83 as compared with 1981-82. The 1982-83 numbers were more in line with 1979-80 levels. The number of requests in the "other" categories also increased. This is primarily the results of increased work with goat producers.

The total number of requests for ration recommendations was at least 100 higher than the number indicated above. In addition to rations requested at the time feed samples are submitted, a number of requests arrive after the feed test results were sent out. Often these are not included in our totals. In addition, an increasing number of ration recommendations were made based on lab results that producers had received from private laboratories. On occasion, ration recommendations were also made without the benefit of feed test results.

Table 1. Comparison between the number of samples received in 1982 and the average number received 1972 to 1982

Period	Sample Submission Classification			
	Regular	Demonstration	Research	Total
* 1982	3833	1994	8630	14457
* 1981	3219	2137	4337	9693
** 1982 Calendar Year	3691	1955	6380	12026
Average 1972-1982 Calendar Years	4559	1477	2847	8911

* Fiscal year April 1, 1982 through to March 31, 1983.

** Calendar Year January 1 through to December 31, 1982.

Table 2. Breakdown by sample submission classification for the 1978, 1979 and 1980 calender years and 1981 and 1982 fiscal years.

Sample Category	1978 No.	1978 % of Total	1979 No.	1979 % of Total	1980 No.	1980 % of Total	1981 (Fiscal) No.	1981 (Fiscal) % of Total	1982 (Fiscal) No.	1982 (Fiscal) % of Total
Regular Samples	5170	53	4826	58	4687	54	3219	33	3833	26
Demonstration Samples	1344	14	969	12	2153	25	2137	22	1994	14
Research Samples	2946	30	2201	27	1674	19	4337	45	8630	60
Special Fee* Samples	305	3	274	3	114	1	0	0	0	0
Total Samples	9765	100	8270	100	8628	100	9693	100	14457	100

* This category was eliminated with the new fee schedule that came into effect in July 1980.

Table 3. Breakdown of 1982 fiscal years samples according to the month received and sample submission classification.

Month	Total	Regular	Demonstration	Research
April	1070	151	109	810
May	175	69	64	42
June	188	45	69	74
July	834	63	148	623
August	677	203	210	264
September	802	349	197	256
October	1242	781	318	143
November	2063	795	324	944
December	2636	571	194	1871
January	639	344	149	146
February	2389	227	100	2062
March	1742	235	112	1395
Total	14457	3833	1994	8630

Table 4. Breakdown of feed types among the 1982 fiscal year regular samples evaluated.

Month	Total	Grains	Roughages	Silages
April	151	109	29	13
May	69	34	28	7
June	45	31	8	6
July	63	13	15	35
August	203	45	140	18
September	349	39	240	70
October	781	173	515	93
November	795	247	476	72
December	571	195	307	69
January	344	128	155	61
February	227	81	105	41
March	235	109	102	24
Total	3833	1204	2120	509

Table 5. Distribution of chemical analyses of Alberta feedstuffs by sample submission - 1982 fiscal year.

Analysis Performed	Regular (%)	Demonstration (%)	Research (%)	Total Number of Analyses
Package (regular)	31	16	53	12455
Carotene	92	8	0	331
Fat	26	74	0	89
Selenium	56	30	14	1811
Salt	16	84	0	90
Ash	1	3	96	1027
Copper	15	25	60	2116
Manganese	18	28	54	1744
Zinc	16	23	61	2041
Iron	1	26	73	1291
Magnesium	22	18	60	1569
Potassium	20	22	58	1638
Sodium	0	18	82	1153
Aluminum	0	23	77	1229
Molybdenum	2	32	66	1428
Sulphur	5	26	69	1376
Cadmium	0	11	89	1060
A.D.I.N.	3	11	86	148
Prussic Acid	40	60	0	5
Lead	0	0	100	947
Boron	0	15	85	1116
Nickle	0	2	98	961
Cobalt	0	31	69	1379
N.D.F.	0	0	100	1014
Lignin	0	0	100	120

Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages and pH on silages and moisture, bushel weight, protein, calcium and phosphorus on grain samples.

Table 6. The number and types of chemical analyses on Alberta feedstuffs over the 1978, 1979 and 1980 calendar years and analyses for 1981 and 1982 fiscal years.

Analysis Performed	Calendar Years			Fiscal Years	
	1978	1979	1980	1981	1982
Package (regular)	9022	7790	8628	9693	12455
Carotene	588	565	605	815	306
Fat	45	96	270	178	89
Selenium	1314	1345	2276	1825	1811
Salt	13	51	178	97	90
Ash	2	40	73	565	1027
Copper	185	135	1174	1333	2116
Manganese	181	86	1145	1224	1744
Zinc	181	89	1083	1274	2041
Iron	181	69	563	851	1290
Magnesium	453	699	1130	1310	1569
Potassium	451	660	998	1290	1638
Sodium	181	51	514	857	1153
Aluminum	0	0	352	1038	1229
Molybdenum	0	0	364	1017	1428
Sulphur	0	13	444	832	1376
Cadmium	0	0	275	820	1060
A.D.I.N.	7	120	135	202	148
Prussic Acid	0	4	5	7	5
Lead	0	0	108	831	947
Boron	0	0	183	912	1116
Nickel	0	0	108	724	961
Cobalt	0	0	108	724	1379
N.D.F.	0	221	500	514	1014
Lignin	0	221	500	472	120

Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages and pH on silages and mositure, bushel weight, protein, calcium and phosphorus on grain samples.

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Selenium	56	30	14	1811
Salt	16	84	0	90
Ash	1	3	96	1027
Copper	15	25	60	2116
Manganese	18	28	54	1744
Zinc	16	23	61	2041
Iron	1	26	73	1291
Magnesium	22	18	60	1569
Potassium	20	22	58	1638
Sodium	0	18	82	1153
Aluminum	0	23	77	1229
Molybdenum	2	32	66	1428
Sulphur	5	26	69	1376
Cadmium	0	11	89	1060
A.D.I.N.	3	11	86	148
Prussic Acid	40	60	0	5
Lead	0	0	100	947
Boron	0	15	85	1116
Nickle	0	2	98	961
Cobalt	0	31	69	1379
N.D.F.	0	0	100	1014
Lignin	0	0	100	120

Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages and pH on silages and moisture, bushel weight, protein, calcium and phosphorus on grain samples.

Table 6. The number and types of chemical analyses on Alberta feedstuffs over the 1978, 1979 and 1980 calendar years and analyses for 1981 and 1982 fiscal years.

Analysis Performed	Calendar Years			Fiscal Years	
	1978	1979	1980	1981	1982
Package (regular)	9022	7790	8628	9693	12455
Carotene	588	565	605	815	306
Fat	45	96	270	178	89
Selenium	1314	1345	2276	1825	1811
Salt	13	51	178	97	90
Ash	2	40	73	565	1027
Copper	185	135	1174	1333	2116
Manganese	181	86	1145	1224	1744
Zinc	181	89	1083	1274	2041
Iron	181	69	563	851	1290
Magnesium	453	699	1130	1310	1569
Potassium	451	660	998	1290	1638
Sodium	181	51	514	857	1153
Aluminum	0	0	352	1038	1229
Molybdenum	0	0	364	1017	1428
Sulphur	0	13	444	832	1376
Cadmium	0	0	275	820	1060
A.D.I.N.	7	120	135	202	148
Prussic Acid	0	4	5	7	5
Lead	0	0	108	831	947
Boron	0	0	183	912	1116
Nickel	0	0	108	724	961
Cobalt	0	0	108	724	1379
N.D.F.	0	221	500	514	1014
Lignin	0	221	500	472	120

Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages and pH on silages and mositure, bushel weight, protein, calcium and phosphorus on grain samples.

Table 7. Number of ration recommendation requests and number of regular reports printed for the 1979 and 1980 calender years and 1981 and 1982 fiscal years.

Type of Request	Calender Years		Fiscal Years	
	1979	1980	1981	1982
Number of Regular Reports	2025	2074	1535	1733
Beef	142	189	96	156
Dairy	58	73	48	54
Swine	100	108	54	88
Sheep	6	18	10	8
Horses	24	17	16	21
Poultry	8	6	9	2
Other	2	2	7	12
Total	330	408	240	341
Ration recommendations as a percent of regular reports (%)	16.3	19.7	15.6	19.7

Table 8. Number of ration recommendation requests and number of demonstration reports printed for the 1979, 1980 and 1981 calender years and 1981 and 1982 fiscal years.

	Calender Years			Fiscal Years	
Type of Request	1979	1980	1981	1981	1982
Number of Demonstration Reports	261	678	1049	1375	650
Beef	3	30	88	48	29
Dairy	1	46	67	40	15
Swine	9	44	84	23	15
Sheep	0	4	2	0	3
Horses	0	0	10	8	0
Poultry	0	3	6	5	2
Other	0	14	5	3	8
Total	13	141	262	127	72
Ration recommendations as a percent of demonstration reports (%)	5.0	20.8	25.0	9.2	11.1

G. Artificial Insemination Data Program

The A.I. data program introduced in April 1980 continued with a grant of $1.00 being paid for each insemination reported by the licensed inseminating businesses in the province. A total of $35,176.00 was paid under this program to 33 participating businesses. This program has led to more accurate A.I. Breeding records and a clearer assessment of the artificial insemination industry.

The following indicates the number of sires used and the number of cows bred for 1982-83 compared to the previous years.

BREED OF SIRE	NUMBER OF A.I. SIRES	1982-83	1981-82
Ayrshire	62	538	581
Brown Swiss	33	340	284
Guernsey	37	221	248
Holstein (B&W)	328	13,958	16,947
Holstein (Red)	14	131	142
Jersey	45	786	747
Red Poll	4	6	9
Dual Purpose Shorthorn	8	35	37
TOTAL DAIRY	531	16,015	18,995
Aberdeen Angus (Black)	110	1,191	1,155
Aberdeen Angus (Red)	22	330	279
Beefalo	1	3	1
Blonde d'Aquitaine	11	164	30
Braham	9	21	13
Brown Swiss (Beef)	2	4	3
Charolais	87	1,036	484
Chianina	20	97	45
Galloway (Belted)	-	-	1
Gelbvieh	9	44	92
Hays Converter	3	5	9
Hereford (Horned)	114	1,499	1,822

Hereford (Polled)	108	1,679	2,137
Highland	1	9	7
Limousin	57	517	641
Luing	-	-	-
Marchigiana	1	1	4
Maine Anjou	30	184	147
Meuse-Rhine-Ijssel	2	5	9
Mexican Corriente	1	10	3
Murray Grey	14	95	112
Normande	1	3	1
Pinzgauer	13	66	66
Piedmont	1	2	-
Romangnola	2	11	20
Salers	14	325	149
Shorthorn	6	38	13
Shorthorn (Polled)	11	60	74
Simmental	160	1,826	1,546
South Devon	2	7	-
Tarentaise	7	26	30
Texas Longhorn	5	25	11
Welsh Black	1	2	6
TOTAL BEEF	825	9,285	8,910
GRAND TOTAL	1,356	25,300	27,905

Note: These totals do not include semen sold directly to owner - inseminators or semen purchased and resold

The Holstein breed continues to account for over 50% of the services, followed by the Simmental, Hereford and Aberdeen Angus breeds.

H. Artificial Insemination Licenses and Permits

Of the 5 licensed semen producing businesses in the province, one was licensed to produce boar semen, two were licensed to produce beef bull semen and two were licensed to produce both dairy and beef bull semen. The number of licenses issued in 1983 under the

Artificial Insemination Act changed very little from the previous year as indicated below

	1982	1983
Semen Producing Businesses	5	5
Inseminating Businesses	48	50
Technician Licenses	114	126
Technician Training Permits	1	4
Specific Herd Permits	3	3

Approximately, 220 cattlemen attended A.I. courses during the year to learn how to inseminate their own cattle. This has led to an increase in the demand for cattle semen and insemination supplies during the early part of 1983.

I. Ram Purchase Program

The objective of the Ram Purchase program is to improve the genetic quality and breeding condition of rams purchased for use on community pastures. This program enables the primary producers of lamb to improve their breeding program to produce market lambs more efficiently.

The purpose of the project was to demonstrate the effectiveness of the above procedure and its potential effect on accelerated lambing, increased lamb production and to reduce seasonal supply variation.

J. Herd Management System (HMS)

Phase I of the HMS was completed for field testing. This involved development, programming and documentation. The HMS Phase I is a mechanism to assist primary producers in identifying the strengths and weaknesses in their cow-calf enterprise.

K. Alberta Certified Feeder Program

This program minimizes the economic loss caused by stress and disease during movement of calves from the cow herd to the feedlot. Enrollment in the program increased in 1982-83.

L. Nutrition Research Studies

The Nutrition Section of the branch was actively involved in identifying research needs, evaluating research proposals, conducting research and extending information in order to solve nutritional problems affecting livestock.

Direct involvement in research and demonstration activities are summarized as follows:

1. Continued activity with the University of Alberta on evaluating the intake and digestibility of forages and predicting the feeding value of forages.

2. Commenced work with the U of A using a nylon bag technique with cannulated pigs to measure and assess the available energy, protein and amino acid content of a variety of pig feeds used in Alberta.

3. Continued a long term field study of cracked hoof syndrome in 16 Alberta beef herds. Commenced a controlled study on this syndrome at Lakeland College.

4. Completed study on the copper requirements of growing goats.

5. Continued study on copper toxicity in Holstein calves.

6. Continued three year study on macro and micro mineral content of forage crops in Barrhead region as affected by variety and maturity at harvest.

7. Conducted a trial on the effect of silage level and trace mineral supplementation on the performance on feedlot heifers.

8. Completed work with U of A on effects of protein content of barley and protein supplementation on pig performance.

9. Continued contact with high-moisture barley research.

10. With A.S.F.T.L. evaluated the determination of the nitrate content of plant and feed material by specific electrode.

11. With A.S.F.T.L. studied the effect of oven-drying at 60°C or 100°C, microwave and freeze drying on the nutrient analysis of silage.

12. Conducted an assessment of the quality of dairy feeds analysed at A.S.F.T.L. in the past three years.

Reports on many of these projects have been prepared and distributed. The results of many of these studies, and in particular the trace mineral work, are being put to use by the feed industry and producers.

M. Research Analyst

The Research Analyst was a resource for all research and development work with the branch and assisted other branches within Animal Industry Division as required. This encompassed:

1. Consultation on experimental design and procedure for over 40 on-farm demonstration and research projects.

2. Data classification, computer input and program modification, statistical analyses, statistical and biological interpretation and result presentation of over 100 field trials.

3. Presides as a member on the Alberta Research Evaluation Committee - Farming for the Future.

N. Regional Programs

Region I - Lethbridge

No major programs initiated since return to office in August.

Farming for the Future - Savory Grazing Project was assisted and a Technician selected and hired for the summer.

Joint U.S.A.-Canada Sterile Male Warble Control was assisted with liason between Researchers and M.D. of Cardston and individual producers. A technician was hired and supervised under the P.E.P. program and another technician hired under the S.T.E.P. program. Program continuing into spring phase.

Inspections of Pre-Immunized and Preconditioned calves were made on designated feedlots. Reports sent to appropriate persons within the Department.

Region II - Airdrie

The two main programs for beef cattle in the area are ROP and Warble Control.

Beef ROP enrollment declined in the region. Warble control program was effective. Out of 28 producers contacted in November for a late treatment, none had not treated for warbles.

Animal Industry was involved with the Animal Health Division in presenting an Animal Health Home Study course. The number of registrants (585) was below the goal of 1000.

Region III - Red Deer

1. Alberta Certified Feeder Program

Response to the program was good with an increase in enrollment. Many of the cattle were purchased by eastern buyers or smaller farm feedlots. More of the A.C.P.F. cattle were bought directly by feeders who have had experience with preconditioned cattle.

2. Feed Analysis

More work was done on trace mineral analysis with a high percentage of samples deficient in copper, zinc and selenium. In a number of herds where breeding performance was poor, low trace mineral levels were found in the forages. Feeding fortified trace mineral salt was recommended in most areas.

3. ROP

There was much confusion at the producer level with the change to the Federal system. Although the information available through the program is excellent, the involved enrollment procedure caused a number of producers to re-evaluate their need for such an extensive program. As a result only purebred breeders remained on the program.

4. Warble Program

Most producers continued to treat stock.

5. Farming for the Future Demonstrations

Demonstrations were well received in the farming community. Results from past work were presented at all related seminars and courses. Most producers were quick to use the technology illustrated in these demonstrations because it is local and done by people they know.

Region IV - Vermilion

1. Dairy producers were the greatest benefactors of the feed freight assistance program. It made it possible for them to obtain the needed good quality forage.

2. The feed analysis service was used extensively and served as a basis for winter feeding of beef and dairy feeding programs.

3. Producers readily accept the value of the warble inspection program and want to keep it in place to regulate the few producers who shirk the responsibility of warble control.

4. The ROP programs are handled by staff from H.Q. There was some involvement at the regional level to help develop a Herd Management System for beef producers.

5. The Alberta Beef Support Program assisted producers with finance management. There was a great deal of activity in this program and required a great deal of time to administer.

Region V - Barrhead

1. Warble Control Program

Counties and M.D.'s in the Region had active warble control programs that included farm calls in spring and fall to producers identified as marketing warble infested cattle. Late warble treatment trials were conducted on 3 farms of

approximately 450 calves. The use of Spot-on in January appeared 100% effective for control of grubs. Control animals had from 0 to 8 grubs present.

2. Beef ROP Program

Revisions in the Federal Beef ROP program made it difficult for producers to justify the program. Special concern was expressed regarding the new method of indexing calves.

3. Pasture Management

The region identified pasture management as a regional thrust. There were a number of activities such as a series of Pasture Management Meetings, On Farm Demo trials through Farming for the Future, and work with the Pembina Forage Association, set up toward achieving good pasture management principles practiced with our livestock producers.

Region VI - Fairview

1. Beef ROP

Beef ROP saw some problems at this level in conversions to the new beef ROP program ie. resistance and confusion with more input sheets.

2. Swine ROP

Program ran well in the region.

3. Warble Treatment Deadline Project

Two herds were on a co-operative project to evaluate effectiveness and safety of warble treatment with systemics during the current 3 month non-treatment period.

4. Certified Preconditioned Feed Calf Program

The sale in Grande Prairie for a second year went well. The Fairview sale held for the first time this year was not as successful.

III. Technology Transfer

Branch staff were involved in enhancing the process of incorporating existing agricultural livestock knowledge on farms through its extension activities. Producer meetings, personal correspondence, mass media releases, personal contact and on-farm demonstrations were used to distribute livestock information to primary producers, industry, the general public and other government agencies.

The Reproduction Management System developed in 1981-82 for dairy cattle has been distributed to a total of 450 dairymen with approximately 50,000 cow records sheets being distributed.

A beef Cow Reproduction Management Record System was developed and distributed in 1982-83. This record system consisting of a pocket diary and loose-leaf type of individual record sheets in a heavy duty binder has been sent on request to 333 beef herd owners representing 32,000 beef cows.

The Special Projects section continued the Livestock Pests Workshops, presented this year in the Fairview Region, October 26 - 27, 1982. It was attended by a total of 60 participants comprising extension and regional staff from Alberta Agriculture, Agricultural Service Board Fieldmen and grazing reserve managers from the Department of Energy and Natural Resources.

The branch organized and participated in numerous workshops and

seminars. Cattle management, ration formulation, trace mineral nutrition, cow-calf and feedlot management, sheep nutrition and management, dairy cattle breeding, livestock pest control, beef pre-immunization and pre-condition and artificial insemination were some of the topics discussed.

Calf Management Days (late October and early November) were set up throughout the Barrhead region to discuss proper management at weaning, feeding calves, economics of feeding and good health care. There were 7 meetings on producer farms with attendance of approximately 100.

The branch published four newsletters on a regular basis in 1982-83. These were Sheep Notes and News, Footnotes, Stock Chat and Talking Stock.

IV. Staff Development

Courses and seminars attended by the staff included.

1. An Introduction to Computers - Plato.
2. A.I.C. Convention - Vancouver
3. Numerous U of A Dept. of Animal Science Seminars
4. U of A Feeders Day
5. A.I.A. micro computer workshop - Olds
6. Public Speaking workshop
7. National Association of Animal Breeders Seminar - Wisconsin
8. Canadian Society of Animal Science meeting - Ontario
9. Western Stock Growers Beef Cattle short course
10. Western Nutrition Conference - Winnipeg
11. Consulting Skills I & II courses
12. Report Writing Workshop
13. Effective Writing Course

14. Administrative Skills and the Senior Secretary

15. Alberta Feed Industry Conference

16. I.M.C. Mineral Nutrition Seminar

V. Staff Changes

1. September 1982 - G. Ross returned from Australian Exchange program. P. Speers returned to Australia.

2. September 1982 - D.F. Engstrom hired as ruminant nutritionist

3. November 1982 - J.P. Mahone transferred to Research Branch.

HORSE INDUSTRY BRANCH

INDUSTRY OVERVIEW

The horse industry in Alberta continues to lead all other provinces in horse numbers, registrations and horse-related activities. Alberta has approximately 158,000 horses which is 40% of the Canadian horse population.

In general, price levels for above average horses have been maintained or increased whereas prices of average or below average horses have declined about 25% during the past year.

Breed Sale Results

	1980	1981	1982
Quarter Horse Select Sale	$3,243	$ 3,285	$3,020
Thoroughbred Select Sale	$9,346	$11,500	$9,752
Arabian Select Sale	--	$ 6,325	--
Standardbred Select Sale	--	--	$7,674

This trend has stimulated considerable culling which is generally speaking beneficial for the breeding industry. The surplus of below average horses and devaluated foreign industries have put considerable pressure on horse meat markets. Prices for slaughter horses have dropped about 10¢ per pound to an average of approximately 45¢ per pound.

Buyers throughout Canada, the U.S. and Europe are increasingly looking to Alberta for breeding stock and the provinces of British Columbia, Saskatchewan and Quebec are establishing programs similar to those in Alberta. The federal Department of Agriculture has established a Canadian Horse Council as an advisory body, representing a cross-section of the breeding industry in Canada. As well, the federal

Department of Industry, Trade and Commerce has assisted Alberta breeders to promote Arabian and Quarter horses in Australia and Europe.

Within the province, there was greater involvement in horse-related activities by other departments (e.g. Economic Development, Alberta Forest Services) and other Alberta Agriculture offices (Market Development, Agri-food Development Branch, Agricultural Development Corporation).

Annual Horse Registration in Alberta

	1979	1980	1981	1982
American saddlebred	18	22	11	20
Appaloosa	1039	844	731	(700)
Arabian	477	731	632	699
Belgian	60	96	181	218
Clydesdale	21	28	23	23
Morgan	103	137	187	232
Percheron	77	82	104	120
Pony Society	--	--	--	34
Quarter Horse	2577	3597	4423	4826
Standardbred	176	--	(300)	(400)
Thoroughbred	613	499	544	737

EDUCATION/ADVISORY SERVICES

The Branch, with a permanent staff of three professionals, provides educational and advisory services to horse owners in all areas of the province. The Branch has a large and varied clientelle which can be divided into primary producers who raise horses and horse owners who purchase and use horses for sport and recreation. Although priority is

given to the breeding industry, considerable effort is given to providing information on general care and management of horses to horse owners, as a large percentage of these people have no agricultural background and expertise with livestock of any sort.

Extension programs consist of conducting or supporting up to 40 short courses throughout the province, providing speakers for programs conducted by colleges and organizations, as well as on-farm, office and telephone consultations.

The Branch prepares technical articles and bulletins for distribution and staff is available as resource people for colleges, veterinarians, district agriculturalists, private and public loan officers and other Alberta Department of Agriculture staff relative to horses and the horse industry.

Since its establishment in 1974, the Branch has maintained a small staff while utilizing resource people throughout the province to assist with extension activities.

HORSE IMPROVEMENT PROGRAM

The Horse Improvement Program is an annual breeders show, designed to identify and recognize superior horses, breeders and trainers in Alberta. A committee consisting of representatives from participating breeds assist with the planning.

In 1982, 48 classes with total prize monies of $58,000 were available for the 14 participating breeds. Five hundred and fifty-two horses were evaluated during four days of exhibiting.

Summary of Horse Improvement Program Entries

	1979	1980	1981	1982
American Saddlebred	19	14	9	6
Arabian	64	67	58	34
Appaloosa	57	53	47	60
Belgian	--	15	16	22
Clydesdale	--	15	16	22
Hunters	--	15	16	31
Morgan	24	21	24	18
Paint	11	13	9	19
Part-bred Arabian	--	--	25	17
Percheron	7	19	26	25
Pinto	11	15	10	23
Quarter Horse	52	72	67	90
Walkers	--	--	--	10
Welsh Pony	14	21	12	27
Total Entries	255	340	335	404
Total Horses	340	453	424	552

TRAVEL ASSISTANCE

Travel assistance is available to Alberta breeders who have horses who qualify for and participate in recognized breed sponsored national or international championship competitions held outside of Alberta. During 1982, travel assistance of $17,700 was paid on behalf of 72 horses representing seven breeds.

Travel Assistance Participation

	1979	1980	1981	1982
Canadian Arabian Championship	18	1	N/A	N/A
Canadian National Appaloosa	N/A	45	N/A	49
U.S. Arabian Championship	3	1	5	1
U.S. National Appaloosa Championship	--	5	6	--
Quarter Horse World Championship	3	8	18	11
U.S. Morgan Horse Championship	--	--	4	1
Connemara International Show	--	--	--	2
U.S. National Peruvian Paso Show	--	--	--	1
U.S. National Clydesdale Show	--	--	--	7

STALLION FERTILITY EVALUATION

Horse breeders can, through referral by a veterinarian, have a fertility evaluation of stallions conducted by the Branch in cooperation with Olds College. In 1982, 28 stallions were tested.

MARKET DEVELOPMENT GRANTS

The Branch assists in administering Market Development grants of up to $22,000 for provincial horse breed associations. The program was established by the Branch in 1978 and funds are allotted from the Agri-food Development Branch budget.

During 1982-83, 11 breed associations were provided grants totalling $78,555. Projects supported include establishing breeders sales, printing brochures, incentives for successful Alberta-bred horses, provincial futurities, participation at trade fairs and general promotion and advertising.

MEDICIATION CONTROL

As a service to provincial organizations, the Branch conducts drug testing at main horse shows. During 1982-83, 341 horses were tested during 28 test days. No forbidden products were detected.

Summary of Testing

	1979	1980	1981	1982
No. of shows tested	11	15	21	16
No. of days tested	28	34	39	28
No. of horses tested	243	258	441	341
No. of blood samples	60	42	119	96
No. of urine samples	183	216	342	236
No. of positive tests	0	0	1	0

RESEARCH

The Branch conducted a horse nutrition research project at Lakeside Research, Brooks, in which growth rates and feed conversion of weanlings, yearlings and two-year olds were compared. A forage evaluation research project at the University of Alberta was funded and reproduction research at the Western College of Veterinary Medicine was supported.

PORK INDUSTRY BRANCH

The 1982 farm cash receipts from sale of hogs in Alberta were estimated as 220 million dollars, up $25 million from 1981. Total production of pigs for slaughter declined 3% from 1981, and prices rose to $82.23 in Edmonton from $67.81 in 1981. As a percentage of total farm cash receipts, income from hogs rose from 5.0% in 1981 to 5.6% in 1982 in Alberta. Exports of pork for Canada rose by 28% and imports fell by 25% compared to 1981. For Canada, 368 million pounds of pork were exported and 30 million pounds were imported, for a net outflow of 338 million pounds in 1982, about 20% of Canada's total production, compared to 15% in 1981.

The number of active hog producers in Alberta in 1982 was 6,500. Marketings were 1,527,542 hogs in Alberta in 1982. On January 1, 1982 the Alberta breeding herd was reported to be 134,000 and on January 1, 1983 it was reported to be 134,000. Total pigs on farms January 1, 1983 was reported as 1,185,000, 4% below the year previous. U.S.A. hog slaughter in 1983 was 79 million head, 10% below 1981. On March 1, 1983 hogs on farms were down 5% in the U.S.A. and breeding herd inventory was down 23% compared to the previous year.

The following table compares recent changes in hog production for various provinces for the past 5 years, and the changes in Canada's hog production as a whole:

% CHANGE IN HOG PRODUCTION (NUMBERS) OVER PREVIOUS YEAR

Year	Canada	Alberta	Ontario	Quebec
1977	+ 6.9%	+ 6.2%	+ 3.2%	+12.8%
1978	+12.9%	+ 4.1%	+15.8%	+17.6%
1979	+22.5%	+15.8%	+24.4%	+25.3%
1980	+18.0%	+18.0%	+11.0%	+22.0%
1981	- 1.3%	- 4.4%	- 3.1%	+ 1.0%
1982	- 0.5%	- 4.5%	+ 4.3%	- 2.6%
Cumulative 1978-1982	+ 42%	+ 25%	+ 39%	+ 51%

	Cumulative - 1978-82	1982/81
For Saskatchewan	+ 9%	- 8.9%
Manitoba	+ 37%	+ 0.7%
B.C.	+233%	- 4.3%
Maritimes	+ 59%	+ 5.9%

Alberta's share of Canada's hog production was 11.8% in 1982 as compared to 12.2% in 1981.

Hog prices were some $15.00 per cwt above the year previous on the average, and reached new record levels in 1982 of $99.50 as a daily average. Prices averaged over $90 per cwt during June, July, August and September. The Pork Producers Market Insurance Program helped maintain a cash flow early in the year, but mostly the high prices led to a replenishment of the insurance fund by the end of March, 1983 to a balance of $9 million.

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1978	+12.9%	+ 4.1%	+15.8%	+17.6%
1979	+22.5%	+15.8%	+24.4%	+25.3%
1980	+18.0%	+18.0%	+11.0%	+22.0%
1981	- 1.3%	- 4.4%	- 3.1%	+ 1.0%
1982	- 0.5%	- 4.5%	+ 4.3%	- 2.6%
Cumulative 1978-1982	+ 42%	+ 25%	+ 39%	+ 51%

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Fund Performance - $'000,000

Month	Disbursements as Paid	Income-Premiums & Interest	Monthly Balance
April/82	1.0	0.6	2.8
May	0.3	0.6	3.1
June	0.0	0.7	3.7
July	*	0.6	4.3
August	0.0	0.6	5.0
September	0.0	0.6	5.5
October	0.0	0.7	6.3
November	0.0	0.5	6.8
December	0.2	0.6	7.2
January/83	*	0.6	7.8
February	*	0.6	8.3
March	*	0.7	9.0

*Amounts less than $50,000.00

This program, while it reduced the cash flow to pork producers in the past year, helped maintain confidence in the industry by establishing a floor price each month for participating producers. Participation was about 2,900 producers - 45% of Alberta's active producers, and about 1,100,000 of Alberta's hogs - 72%.

The Alberta Swine Artificial Insemination (A.I.) Program continued to expand during the past year. Semen shipments totalled 4,011 to 200 different farms (see tables). This is an increase of 50% over the previous year. Fertility monitoring revealed a 77% farrowing rate and an average of 9.5 live piglets born per litter, representing continued improvement in this area. This is close to the current level of fertility from natural matings. A total of 14 A.I. short courses were held with 252 producers attending during the past year. A.I. program information was also presented in conjunction with several swine extension metings and courses.

Frozen semen was produced on a limited basis for producers who could not make use of the fresh semen program. Research was conducted on application of established techniques for frozen semen in laboratory field trials this year. Results obtained with frozen semen show reduction in fertility of 30% and 2-3 fewer pigs born per litter on average than obtained with fresh semen. Expansion of the frozen semen program will not be anticipated until better technology is available.

BOAR INVENTORY

Breed	On Hand March 31/82	On Hand March 31/83	Sold	Added
Yorkshire	8	5	8	5
Landrace	4	8	1	5
Lacombe	2	2	1	1
Duroc	4	3	3	2
Hampshire	2	4	1	3
Total	20	22	14	16

Four of the sires that were added were purchased for the Swine Breeding Centre by Agriculture Canada under the sire loan policy, and 12 boars were purchased by Alberta Agriculture. The swine A.I. program provides a service that is not likely to be offered by private industry at this time, providing access to the best breeding stock available to any producer in Canada. Export potential does exist within the time constraints of delivery of fresh semen, and frozen semen also is available for export where a performance guarantee is unimportant.

LIQUID SEMEN SHIPMENTS BY BREED

Breed	April 1-March 31/81	April 1-March 31/82		April 1-March 31/83	
Yorkshire	532	966	36.1%	1,469	36.6%
Landrace	344	952	35.6%	1,552	38.6%
Lacombe	95	138	5.2%	239	6.0%
Duroc	79	437	16.4%	514	12.8%
Hampshire	30	180	6.7%	237	6.0%
	1,080	2,673	100.0%	4,011	100.0%
*Semen shipped and returned because of late delivery		17		25	
	Net Shipment	2,656		3,986	

Province	April 1/81-March 31/82		April 1/82-March 31/83	
British Columbia	647	24.3%	916	23.0%
Alberta	1,688	63.6%	2,646	66.4%
Saskatchewan	145	5.5%	238	6.0%
Manitoba	176	6.6%	172	4.3%
Other Canadian			14	0.3%
Total	2,656	100.0%	3,986	100.0%

DISTRIBUTION OF CUSTOMERS ACCORDING TO AMOUNT OF SEMEN PURCHASED

APRIL 1/82 - MARCH 31/83

Numbers of Breedings	Numbers of Customers		Total Nos. of Breedings	
10 or less	136	68.0%	556	13.9%
11 - 20	27	13.5%	391	9.8%
21 - 50	18	9.0%	621	15.6%
51 - 100	11	5.5%	696	17.5%
101 - 200	4	2.0%	531	13.3%
201+	4	2.0%	1,191	29.9%
	200		3,986	

The Swine Record of Performance (R.O.P.) program directly served 94 operations enrolled on the home test portion of the program. On farm testing was performed by 3 full-time and 3 part-time technicians. Approximately 2/3 of the 94 operations are in the business of selling breeding stock and 1/3 test for within herd selection of replacement gilts.

A total of 15,740 pigs were tested on the above farms - a 13% increase over the previous year. Those selling breeding stock tested 80% of this total. The performance results are shown in the following tables.

In the station test portion of the program owned and operated in co-operation with Agriculture Canada, 872 boars were tested at Leduc and Lacombe, an increase of 140 over the previous year. The performance results are listed in the tables.

In the test station sales of performance proven boars evaluated as physically sound, sponsored by the Alberta Swine Breeders Association (ASBA), 279 boars were sold for an average price of $476.70. The highest price paid for a boar for the year was bred by Garry Knobben and sold for $2,300 to Agriculture Canada for the Alberta A.I. Centre.

Table 1

ALBERTA SWINE R.O.P. TESTING SUMMARY

1978 - 1982

Boars Station Tested	1978	1979	1980	1981	1982
Number	740	838	902	732	872
Av. Backfat thickness (mm)	18.0	17.1	17.4	16.6	15.3
Av. age to 90 kg (days)	-	147	152	149	147
Av. daily gain (kg)	0.89	0.91	0.88	0.91	0.92
Av. feed conversion	2.55	2.49	2.55	2.47	2.43
Boars Home Tested					
Number	2676	3937	4207	4201	4750
Av. Backfat thickness (mm)	15.4	15.0	14.6	14.4	13.9
Av. age to 90 kg (days)	167	172	171	166	162
TOTAL BOARS TESTED	3416	4775	5109	4933	5622
Gilts Home Tested					
Number	7765	9988	9664	9778	10990
Av. Backfat thickness (mm)	16.8	16.0	15.7	15.8	15.2
Av. age to 90 kg (days)	177	177	174	174	172
TOTAL PIGS TESTED	11206	14956	14773	14711	16612

Table 2

HOME TESTED BOARS - BY BREED

	1982			1981		
BREED	NO.TESTED	AV. B.F. (mm)	ADJ. AGE (days)	NO.TESTED	AV. B.F. (mm)	AGE ADJ. (days)
Yorkshire	2421	14.0	162	2529	14.5	166
Landrace	571	15.1	158	488	14.8	164
Lacombe	435	14.0	160	454	15.1	161
Hampshire	198	12.3	179	164	12.4	177
Duroc	220	13.5	168	220	14.1	162
Crossbred	905	13.5	162	346	13.6	167
TOTAL	4750	13.9	162	4201	14.4	166

Table 3

HOME TESTED GILTS BY BREED

	1982			1981		
BREED	NO.TESTED	AV. B.F. (mm)	ADJ. AGE (days)	NO.TESTED	AV. B.F. (mm)	AGE ADJ. (days)
Yorkshire	4099	15.0	168	4075	15.5	172
Landrace	837	16.1	166	649	16.7	169
Lacombe	628	15.2	173	701	16.4	172
Hampshire	194	13.2	180	155	12.9	182
Duroc	242	14.0	173	163	15.6	164
Crossbred	4990	15.3	176	4035	15.9	177
TOTAL	10990	15.2	172	9778	15.8	174

Table 4

1982 STATION TEST SUMMARY

STATION: LEDUC

	YORK	LAND	LAC	HAMP	DUROC	COMM	TOTAL
No. entered	368	26	56	10	14	16	490
No. tested	358	26	55	10	11	14	474
Ave. B.F.	15.4	14.3	15.3	12.7	14.7	13.9	15.2
ADG	0.91	0.88	0.91	0.86	0.90	0.92	0.91
F.C.	2.40	2.53	2.47	2.54	2.48	2.39	2.42
Ave. Age	148	141	147	163	160	148	148
No. died	6	0	1	0	1	0	8
No. culled	181	15	30	6	5	6	243
No. unsold	79	3	9	2	2	1	96
No. sold	102	8	16	2	6	9	143
Total price	44,710	4,595	6,865	625	2,975	3,995	63,765
Ave. price	438.33	574.38	429.06	312.50	495.85	443.89	445.91

STATION: LACOMBE

No. entered	274	46	46	14	26	406
No. tested	269	45	46	14	24	398
Ave. B.F.	15.3	15.6	16.9	14.4	15.2	15.5
ADG	0.95	0.96	0.97	0.86	0.90	0.94
F.C.	2.43	2.47	2.47	2.47	2.41	2.44
Ave. age	146	141	145	161	155	146
No. died	2	1	0	0	0	3
No. culled	129	29	29	8	16	211
No. unsold	102	14	9	5	6	136
Total price	52,430	7,975	3,650	2,535	2,645	69,235
Ave. price	514.02	569.64	405.56	507.00	440.83	509.80

The swine specialists carried out a major share of the Pork Industry Branch's swine extension program. Over 355 farm calls were recorded by specialists. These involved questions in nutrition, engineering, herd health, finance, breeding, servicing A.I. - R.O.P. programs, investigations for ADC, feed test results follow-up, ventilation problems, planning visits and work with local vets, feed company personnel, swine buildings engineers, regional economists, local D.A.s, and others. Frequently groups of producers were brought together for joint consultation. Over 379 office interviews were recorded by the specialists. These also dealt with the above areas of concern, and often served to meet client needs when the need was immediate and a farm visit could not be scheduled. In the office, swine extension materials were supplied directly and through D.A. offices.

The Pork Industry Handbook was continued with 39 additional fact sheets for a total of 54 and a further assigned 40 titles totalling 94. These were distributed on request to a list of over 1,200 names. A research review column and a column with questions on nutrition has been produced by the specialists and the monogastric nutritionist and these have appeared in every edition of the Alberta Hog Journal, a quarterly publication.

The Pork Industry Branch staff have participated as resource persons, and helped organize over 25 local extension meetings, seminars

and series courses throughout the province this year, with attendance from 5 to 80 persons at each. In addition, they have been actively involved in the planning and staging of the Alberta Pork Seminar (120 attending), the Alberta Pork Congress (about 3,000 attending), the D.A. in-service training course, and meetings of the Alberta Swine Breeders Association, the Western Hog Growers Association, the Southern Alberta Hog Producers Association and the Alberta Pork Producers Marketing Board district meetings.

Several special activities were undertaken by specialists in each region, and these are summarized as follows:

Lethbridge: A swine record-keeping program for province-wide distribution was developed, printed and sent out. This program was very timely and a strong demand for it was received with 300 distributed to date in this province. The Lethbridge Swine Fair was held in October 1982. Attendance was mediocre due to time of the year. It was recommended to hold it in November. The Pork Industry Display was expanded with three new sets of material, which went to 7 shows during the year. Extension seminars served included a total of 24 in Lethbridge and other regions. Office interviews and farm calls totalled 168 this year.

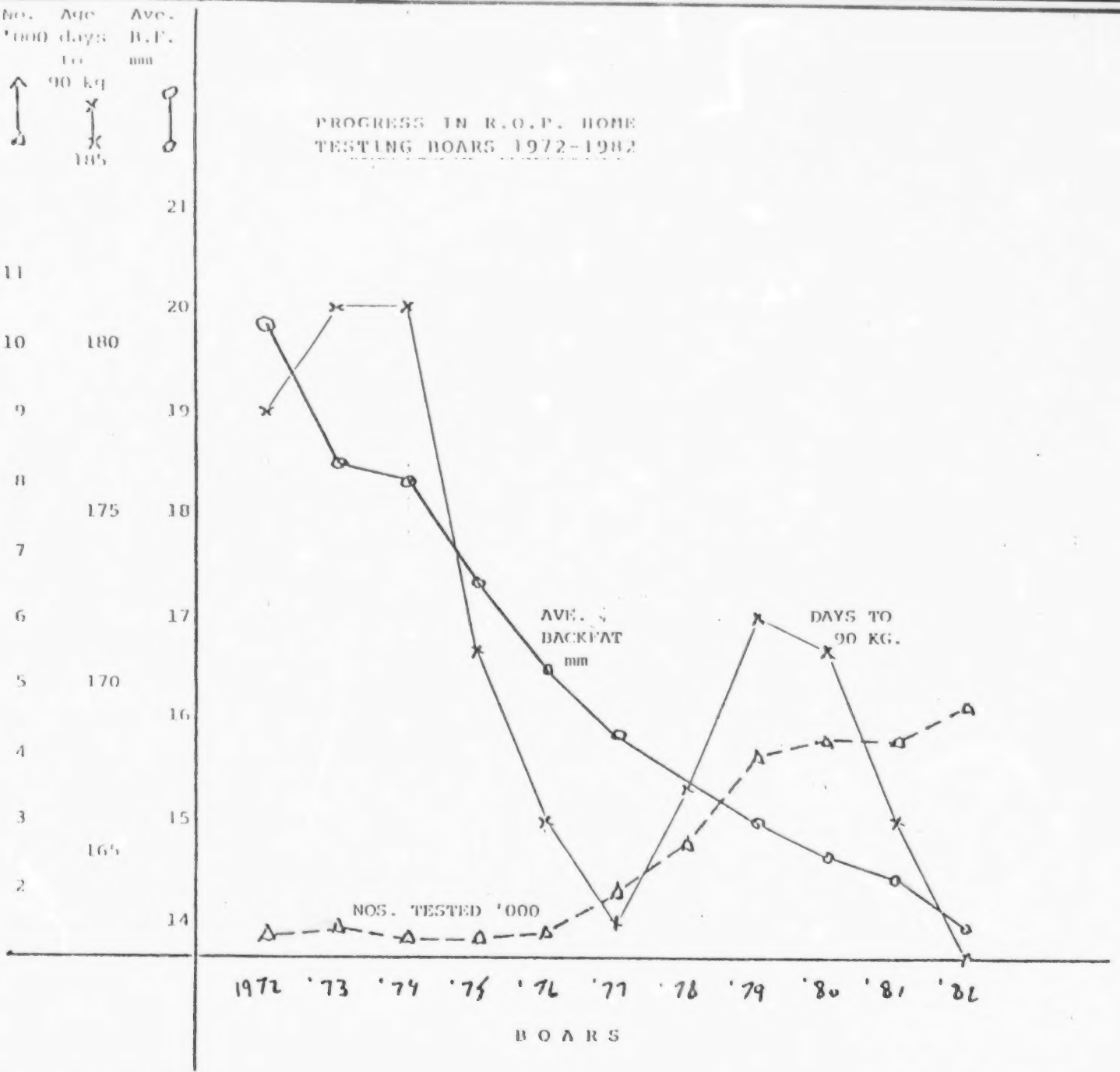
Red Deer: The educational program for the Alberta Pork Congress, and the Alberta Pork Seminar were co-ordinated. A total of 51 educational programs involving 40 man days were organized and resourced, with 7 of these out of the region. The Pork Industry Handbook materials were co-ordinated and edited. Farm calls totalled 99, and office interviews were 125 for the year.

Vermilion: Written extension materials were produced on fact sheets, a column with questions on nutrition, scientific papers for the Canadian Journal of Animal Science, Feeders Day Report, the Alberta Pork Congress, and the Canadian Society of Animal Science. Two short courses were held and four seminars out of region were resourced. Farm calls totalled 87, and office interviews were 89 for the year.

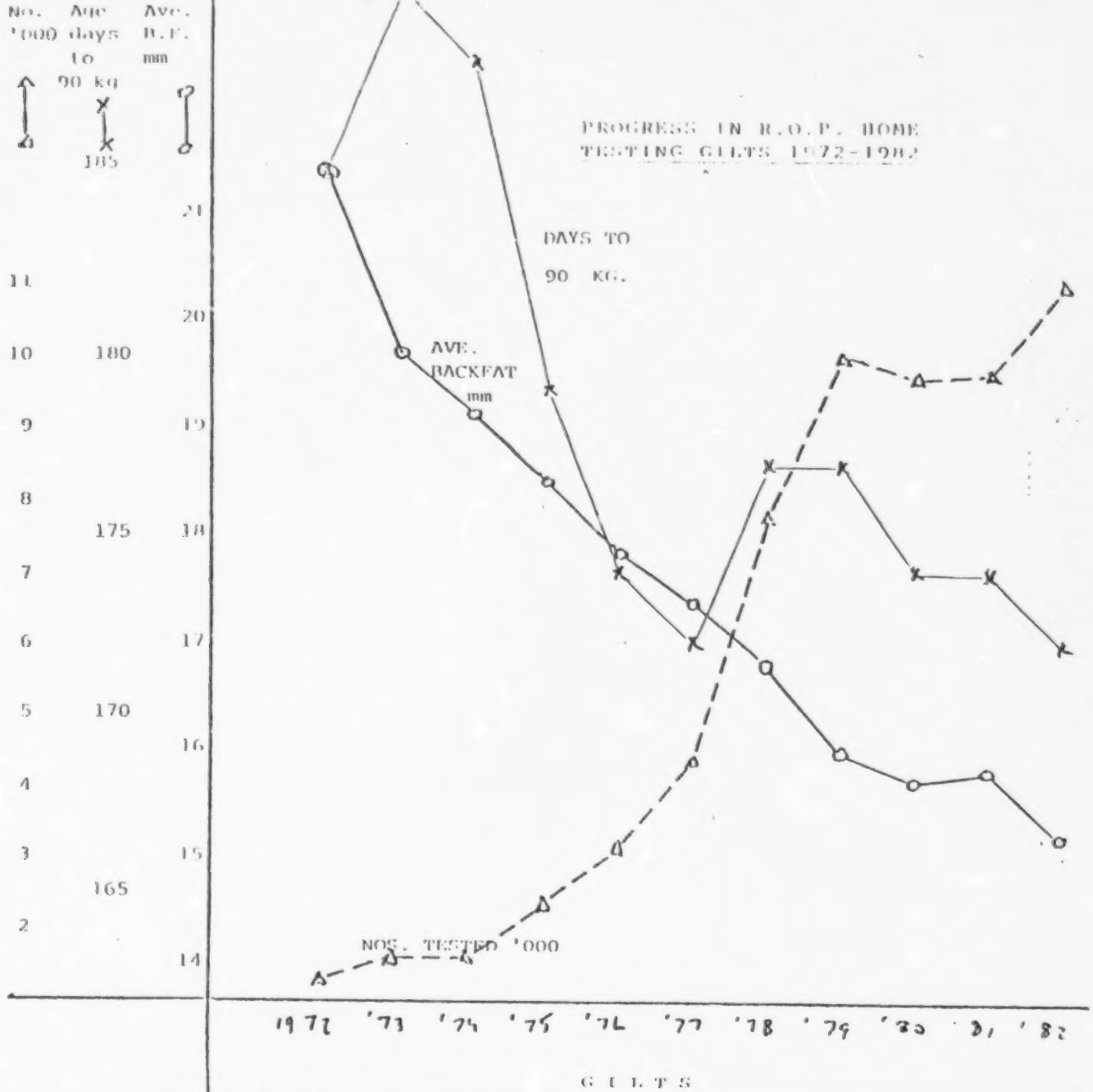
Barrhead: The Swine Research Review column for the Western Hog Journal was co-ordinated. Eight swine seminars and courses were resourced of which two were in other regions. Much time was required to supply comments to Agricultural Development Corporation (ADC) offices relative to information supplied in connection with loan requests. An increase in inquiries for hog production information occurred. The Peace River Region is also served by the swine specialist in Barrhead with the accompanying travel time requirement. Farm calls totalled 85, and office interviews were 81 for the year.

Staff members have participated in meetings and activities of the following advisory committees - Swine R.O.P. advisory committee, Swine R.O.P. Advisory Board (Canada), Swine A.I. advisory committee, Alberta Swine Research Advisory Committee, Alberta Pork Producers Marketing Board Research Advisory Committee, Swine Herd Health Advisory Committee, Alberta Pork Congress Board, Animal Industry Advisory Committee and others.

Other activities have included working with regional extension staff, testing green certificate trainees in swine production, attending industry swine meetings, manning the pork industry display, servicing the swine record keeping system, working with Alberta Veterinary Medical Association re swine production information, University of Alberta re Feeders' Day, and a variety of similar activities.



PROGRESS IN R.O.P. HOME TESTING BOARS 1972-1982


PROGRESS IN R.O.P. HOME TESTING GILTS 1972-1982
DAYS TO 90 KG.
AVE. BACKFAT mm
NOS. TESTED '000
No. '000
Age days to 90 kg
Ave. B.F. mm
185
180
175
170
165
11
10
9
8
7
6
5
4
3
2
21
20
19
18
17
16
15
14
1972 '73 '74 '75 '76 '77 '78 '79 '80 '81 '82
GILTS

POULTRY BRANCH

General Conditions - For most sectors of the poultry industry 1982 was a year of consolidation and belt tightening. Chances for increased profits were usually negated by increased charges for such items as energy, interest and labor. Perhaps the sector that fared the best was the turkey industry. This was not without repercussion, however, and the year end saw heavy surplus stocks of turkey which forewarned of trouble to come. The National Agency has since cut Alberta's allocation by one mil. lb or approximately 5.5% of the 18.2 mil. lb original allotment.

Prices for most poultry and egg products trended lower toward the end of the year. This was only partially compensated for by reductions in feed costs. In June the Egg Board lowered their levy from 8½ to 7½ cents per dozen. In the broiler industry in particular, the feed companies seemed to actively try to modify the price decreases brought on by out-of-province product, by cutting markups and in some cases hauling charges on their feed. Some egg producers received a financial boost through increased premium being paid on selected grades.

The one exception to this hold the line situation was the broiler hatching egg producers. Their situation is dealt with later, but the end of the year saw these producers coming off an early marketing program which saw many growers marketing their birds as much as 10 weeks earlier than normal.

As the year ended pressure was mounting, on the part of the National Chicken Agency, in an effort to force the Alberta Broiler Board into joining the National Agency. The pressure this time was on the processors with the National Agency attempting to curtail shipments out of an "unregulated area" into a "regulated area".

The year end saw one of our processors, Canada Packers, opening a new modern processing facility in the Edmonton area.

The year 1982 saw the formation of the fourth poultry marketing board. This board will control the production of broiler hatching eggs within the province. Quotas were allocated to 65 active producers for a total of 538,725 females per cycle or 448,587 annualized quota. The largest operator can place 36,000 breeders per cycle or 28,363 per year. The vote for the establishment of a Marketing Board came at a time of heavy surplus in the hatching egg business. The situation called for drastic remedial measures and they were taken as follows: 1) Surplus eggs were sent to the breakers; 2) Early marketing of breeders made mandatory. Many breeders were marketed as much as ten weeks early; 3) Placement of new pullets cut to 85% of quota base period; 4) Placement of new breeders delayed.

These steps, initiated in attempt to bring supply into line with demand, imposed a severe financial cutback on many growers. Subsequently the Marketing Board made a request for assistance to the Alberta Department of Agriculture. This request met with a favorable response from the Department and the Department along with industry, have participated in a stop loss payment aimed at keeping these operators in business until their Board system gets completely operational.

Commercial egg marketings through registered egg stations were 2.254 mil. boxes in 1982 compared to 2.295 mil. boxes in 1981, a decrease of 1.8%. The per capita consumption of shell eggs in Alberta in 1982 was 20.6 dozen, compared to 20.4 dozen in 1981. A continued growth and a shift towards increased egg consumption as a result of increased retail specialing and uncertainty in the economy encouraged increased egg consumption. Net egg

movements into the province during 1982 averaged 12,521 boxes per week compared to 10,690 in 1981, an increase of 17.1%.

Alberta chicken marketings in 1982 increased significantly from 33.970 mil. Kg in 1981 to 37.002 mil. Kg in 1982, an increase of 8.9%. Total chicken meat consumption was 8.8% higher in 1982 reaching 38.9 mil Kg. Alberta lost its position as the largest marketer of cornish in Canada and now ranks behind Ontario. During 1982 Alberta's cornish production was 3.35 mil. Kg, a market share of 40.0% compared to 49.4% in 1981. For Canada, higher pork prices and relatively lower chicken prices increased demand for chicken. Consumption for the year was 2.8% higher compared to 1981. Per capita consumption increased by almost 0.5 Kg to about 16.5 Kg.

Alberta turkey production in 1982 was 7.6 mil. Kg, about 95% of our 1982 quota allotment of 8.01 mil. Kg. Live turkey from Saskatchewan continued to move into the province to augment local supplies. The per capita disappearance of turkey in Canada in 1981 was 3.88 Kg, down from 4.11 Kg in 1981. The consumption breakdown was 2.46 Kg of heavy turkey (over 5 Kg) and 1.42 Kg of broiler turkey (under 5 Kg).

Branch Programs

Administration - To develop and administer regulations, policies and programs relative to the industry under the Livestock and Livestock Products Act.

The Poultry Branch Programs relate to increasing poultry production, improving efficiency and thus farm income, and keeping poultry products competitive with other protein sources.

Research

To conduct research on nutrition, management, and other related areas

that may benefit poultry producers and allied industry.

Trials conducted during the period 1982-1983 involved the use of approximately 3000 leghorn layers, 1200 broiler breeders and 11,200 male broilers and roaster chicks.

A project initiated in 1979, on the use of commercially produced canola meal in rations for leghorn layers, was completed in 1982. Traits measured in two experiments included: egg production, feed conversion, mortality and egg quality. Egg quality was assessed by measuring, size, grading, haugh units, specific gravity, fracture force and deformation.

Results obtained showed that canola meal included at 10% level of the ration does not adversely affect the performance of the birds.

The first experiment on the use of canola meal in rations for broiler breeders was also completed in 1982. In this experiment, canola meal was included at levels of 5, 10 or 15% of the diets.

Data collected during 252 days showed that egg production, number of hatchable eggs, egg size, fertility, and number of chicks hatched were not adversely affected by any of the levels of canola included in the rations.

In another experiment with leghorn layers, the effects of using a high level of sodium chloride (1% of the ration) and varying levels of phosphorus (0.38 and 0.48% of the rations) were studied. This experiment tried to simulate high levels of salts found in the water used in poultry operations throughout Alberta. In this experiment, it was observed that egg production, feed conversion and mortality of the birds fed the ration containing as much as 2.86 times the recommended level of sodium chloride (0.35%) were similar to those of the birds fed the control ration.

In the same experiment, it was observed that performances and egg

quality of birds fed the diets containing 0.38 or 0.48% phosphorus were quite similar. This result would indicate that the levels of this element commonly used in practical diets (0.6-0.7%) could be lowered.

Poor grading of carcassess from roaster chickens has been a serious problem, limiting the economic return of producers and prospectives of this segment of the Poultry Industry. Consequently, experiments involving different strains and dietary regimens were undertaken. Two experiments were dedicated to compare the performance of a roaster strain of chicken with several broiler strains raised to roaster size. From the results of these experiments, it was concluded that in spite of the superior grading and lower mortality observed in the roaster type, there were no clear economic advantages in favor of that strain.

In two other experiments with roasters, starter diets containing 17, 20 or 23% protein were assessed. Rate of growth of the groups started on the 20 or 23% protein diets were the same. Values of mortality and feed efficiency recorded in these experiments tended to be lower with decreasing levels of protein in the diet. Again, the percent of "Grade A" carcasses was higher for the roaster strain. Economic return calculated was slightly higher in the groups fed the starter containing 17% protein.

Poultry Health - To prevent and control poultry diseases; to safeguard public health.

Monitoring of all breeder flocks and hatcheries, with emphasis on salmonella detection and reduction, by the Poultry Branch continued throughout the year in cooperation with the Animal Health Division. This program is designed to increase agriculture production by reducing the numbers and kinds of disease producing organism in poultry and their

environment, with emphasis on salmonella because of the public health significance of these organisms. This increased production has led to improved income for the poultry producers of this province in most cases.

There are a number of areas in the poultry health program. These are:

1. Hatchery Sanitation Program (Fluff Sampling)

Fluff samples analyzed were 55 (chicken) from the Lethbridge area, 179 (chicken) and 15 (turkey) from the Calgary area, and 267 (chicken) and 14 (turkey) from the Edmonton area. Salmonella isolation in the chicken fluff was 0.79% in 1982 compared to 1.47% in 1981, while isolation in turkeys increased by 10.34% over 1981 from two turkey hatcheries.

The number of chicken flocks represented by fluff samples total 515, indicating a monitoring sampling of approximately 4.2 times for each hatchery supply flock, while turkey flock representations totalled 25 indicating approximately 12.5 fluff samples per flock.

2. Poultry Health Programs

During the year, increased emphasis on clean-out and disinfection was stressed by branch staff with hatching egg shippers. A definate improvement over the years can be noted by the results of the following table:

Percent Chicken Salmonella Isolations

	Replacement	Brooding	Laying	1st Hatch	Total
No. of Submissions	106	-	133	138	377
No. of Positives (+)	2	-	19	5	26
Percent + (1982)	1.9%	-	14.3%	3.6%	6.9%
(1981)	10.4%	53.3%	18.7%	3.1%	13.0%
(1980)	13.6%	64.0%	35.6%	4.3%	30.1%
(1979)	22.0%	58.3%	24.6%	7.6%	27.7%

Under the turkey health program, salmonella was isolated only once in culls at hatching time from one flock.

3. Hatchery Egg Supply Flock Approval

Chicken:

	No. of Flocks		Average Flock Size		No. of Birds	
Year	Egg	Broiler	Egg	Broiler	Egg	Broiler
1979	37	102	1404	3121	51,946	318,385
1980	22	89	1752	3778	38,655	336,211
1981	30	88	1643	3926	49,278	345,520
1982	26	106	1979	3822	51,465	405,187

Turkeys:

	No. of Flocks		Average Flock Size		No. of Birds	
Year	Lights	Heavies	Lights	Heavies	Lights	Heavies
1979	2	7	5,050	3,250	10,100	22,750
1980	2	7	4,040	4,380	8,080	30,660
1981	1	6	3,650	3,743	3,650	22,460
1982	-	2	-	6,225	-	12,450

Chicken broiler breeders approved increased by approximately 60,000 females over 1981 resulting in a surplus of hatching eggs. Heavy turkey breeders approved decreased by some 10,000 females over 1981 with no turkey broiler breeders approved.

4. General

26 Permits from British Columbia were received by the Animal Health Division during the past year for a total of 75,625 single comb white leghorn chicks. This compares to 10 permits in 1981 for a total of 63,300 chicks.

An Infectious laryngotracheitis (I.L.T.) outbreak occurred in one major commercial broiler flock, other I.L.T. cases were diagnosed in five small exhibition flocks throughout the province.

The province joined with the Federal Government and signed a pullorum-typhoid eradication program. One requirement of this program was to test fancy flocks. This was started during the year with 74 premises tested by the rapid whole blood method for a total of 9987 birds. All birds were vaccinated for I.L.T. and all tested birds were negative for pullorum-typhoid.

The Branch continued its work in the area of rabbit extension by organizing a Rabbit Symposium for producers, mailing out 96 rabbit information packages, receiving numerous phone calls, and publishing a booklet "Raising Meat Rabbits in Alberta".

Economic Studies - With our changing economic conditions the emphasis on loan scrutiny has changed. Lenders, whether they be banks, A.D.C. or F.C.C., are now much more concerned with the ability of a proposed project to generate sufficient income to pay interest, retire the loan and leave something for living expenses. For years the option has been available that if things got tough they could always sell at a profit. This line of reasoning is no longer realistic--they now may not even be able to sell at a

loss. Price fluctuations have been much less pronounced with poultry than with most other forms of livestock production, consequently our economic predictions should carry more weight than in many other areas. Problems at the National Agency level have caused some concern regarding the continued stability of the industry over the long term. The Branch attempts to keep cost figures and production standards current at all times.

Extension - The Poultry Branch continues to supply extension information to all phases of the poultry industry, ranging from our sophisticated commercial producers down to the acreage owner or hobbyist who has no intention of developing a commercial operation. Our staff made 1006 individual farm calls in 1982 plus another 140 calls to the allied trade. 131 meetings were attended including industry and Department meetings. This does not include office calls and telephone interviews.

In February, the 32nd annual Poultry Industry Conference was held in Lethbridge. This year we did not have the Turkey Marketing Board participating in the Conference, but in spite of this, attendance was good and participants expressed very positive comments. The Seventh Poultry Serviceman's Workshop again drew about 50 people and appeared to fill a real need. The staff also participated in many other meetings and workshops. Several members of our staff worked on planning and organization for the National Hatchery Federation Convention held in Calgary in August.

Year	Alberta Agri. Layers (Average/month)	Alberta Agri. Total Eggs Dozen (Average/month)	Reg. Stations 15 doz boxes	Producer Av. Wt. Price
1981	2,130,685	3,057,780	2,230,000	91.7
1982	2,080,940	2,987,520	2,250,000	87.8

Poultry Eviscerated in Registered Stations

Chicken (Kilograms)

Year	Under 1 kg	1- 2 Kg	Over 2 Kg	Fowl	Ducks	Geese
1981	2,221,000	29,984,000	1,654,000	1,853,000	233	5,857
1982	2,263,000	32,146,000	2,501,000	2,059,000	0	5,818

Turkey (Kilograms)

Year	Under 5 kg.	5 - 8 kg.	Over 8 kg.	Mature	Total
1981	2,052,000	2,747,000	3,578,000	0	8,377,000
1982	1,914,000	3,486,000	3,203,000	120,000	8,723,000

Chick and Poultry Production by Type

	1981	1982
*Egg Production by Type	2,553,000	2,628,000
Chicken Broiler Production	31,167,000	31,467,000
Broiler Turkeys	599,000	601,000
Heavy Weight Turkeys	913,000	963,000

*Females only

Licensing

Year	First Receivers	Reg. Egg Grading Station	Reg. Poultry Stations	Egg Packing Stations	Buy & Sell Rejects	Hatcheries
1980	3	20	8	20	25	17
1981	3	17	10	11	21	14
1982	3	18	10	15	29	16

Farm Cash Receipts $

	1981	1982*
Eggs	46,000,000	42,000,000
Poultry	78,000,000	82,000,000
	124,000,000	124,000,000

*Estimate

REGULATORY SERVICES AND FEEDER ASSOCIATIONS BRANCH

This branch was responsible for the administration of certain Acts and their respective Regulations.

This regulatory function provides a protection service for livestock producers in the following areas:

- Brand inspection services
- Brand registration
- Licensing and bonding of livestock dealers and agents
- Licensing of stockyards and stockyard operators
- Provide for protection of land and agricultural products from livestock running at large
- Conducting investigations of fraudulent trade practices in livestock trading
- Check scales and equipment used in making railgrade settlements on cattle

The Feeder Associations Guarantee Act enables members of feeder associations to acquire financing for the growing and finishing of livestock.

BRAND RECORDING SUMMARY

	Cattle	Horses	Sheep	Total
New Brands Issued	1,395	497	0	1,892
Transfers	608	85	0	693
Certified Extracts	0	0	0	0
Cancelled Brands	219	32	1	252
Brands Renewed	8,664	1,163	2	9,829
Brands Re-issued	128	20	0	148

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Brands Re-issued	128	20	0	148

The number of brands in good standing at December 31, 1982:

Cattle	44,798
Horses	6,723
Sheep	15

A total of 2,283 cattle and 312 horse final notices were prepared and mailed in January. In addition, 10,505 cattle, and 1,449 horse renewal notices were received from Computer Services in mid-August, finalized in Stettler and mailed during the later part of August and October.

During the year, a total of 49 livestock auction markets and 67 livestock assembly stations were in operation. Twelve markets were licensed permitting them to hold 5 or less sales during the calendar year. The Edmonton Terminal Yard changed its operation and became a public livestock market during the year.

During the year, a total of 3,070,219 head of livestock were brand inspected. This was an increase of 188,263 from the previous year.

Summary of Inspections

Year	Terminal Yards	%	Auction Markets	%	Packing Plants	%	Inspection	%
1982	-	-	1,843,342	60.0	1,034,254	33.6	192,623	6.4
1981	366,379	12.7	1,312,403	45.5	997,101	34.6	206,073	7.2
1980	511,702	17.2	1,320,329	44.4	980,416	33.0	162,642	5.4
1979	561,546	19.3	1,205,012	41.4	998,[illegible]6	34.3	148,388	5.0
1978	669,067	21.5	1,284,684	41.3	1,085,252	34.9	71,420	2.3

Location	# of Inspectors		Lstk. Inspected		Lstk. Insp. Per Man	
	1981	1982	1981	1982	1981	1982
Brooks	2.36	2.38	190,048	204,620	80,528	85,975
Calgary	8.25	7.28	518,975	545,321	62,906	74,907
Clyde	1.67	1.76	130,075	140,133	77,889	79,621
Edmonton	12.96	12.21	390,866	402,617	30,159	32,974
Grande Prairie	2.30	2.00	45,411	45,472	19,743	22,736
Hardisty	1.19	1.47	89,944	92,035	75,583	62,609
Lethbridge	7.04	6.63	480,473	462,732	68,249	69,794
Lloydminster	1.00	1.00	66,453	77,185	66,453	77,185
Medicine Hat	1.78	1.88	87,486	73,552	49,149	39,123
Ponoka	2.00	2.13	149,294	163,983	74,647	76,987
Red Deer	5.45	4.02	227,159	244,875	41,680	60,914
St. Paul	1.07	1.06	15,326	14,882	14,323	14,040
Strathmore	1.00	1.00	56,898	39,668	56,898	39,668

During 1982 our brand inspection staff questioned 63,657 head of livestock for bills of sale and held the proceeds on another 25,888 head pending proof of ownership. The proceeds on 4,608 head were sent to the brand owners and 117 head of livestock were returned to the brand owners.

Cattle Exports - 1982

Month	B.C.	Sask.	Man.	Ont.	Que.	USA	Others	Total
Jan.	566	3,714	544	8,390	69	4,677	486	18,446
Feb.	1,116	2,877	584	23,132	193	6,415	1,260	35,577

Month	B.C.	Sask.	Man.	Ont.	Que.	USA	Others	Total
Mar.	1,579	4,319	94	24,378	176	11,295	611	42,452
Apr.	2,036	3,673	258	19,938	165	13,888	1,235	41,193
May	1,867	2,844	20	7,560	2	5,378	-	17,671
June	2,241	3,161	43	6,586	125	4,989	2	17,147
July	1,246	2,055	179	7,068	-	3,596	130	14,274
Aug.	787	2,144	88	3,908	24	5,201	-	12,152
Sept.	738	2,527	150	6,700	124	2,780	591	13,610
Oct.	1,128	3,038	374	24,030	3,119	3,835	-	35,524
Nov.	2,112	5,179	889	56,300	3,265	5,219	1,753	74,717
Dec.	1,180	3,248	619	8,733	610	4,897	440	19,727
TOTAL	16,596	38,779	3,842	196,723	7,872	72,170	6,508	342,490

During 1982, 444 missing or stolen cattle reports were received. Following is a summary of these reports for the last three years.

Missing or Stolen Cattle Reports

	1982	1981	1980
Total Number of Reports	444	495	478
No. of Head reported			
Missing or Stolen	1,584	1,435	1,557
No. Found	481	441	565
No. not Found	1,103	994	992

Under the Stray Animals Act, 984 head of livestock were impounded during the year. A total of 838 head were returned to the rightful owners after they paid the costs of capture, transportation and maintenance. The balance of 146 head were sold by public auction and the net proceeds after costs were deposited into general revenue.

There were 879 livestock dealers and agents licensed during 1982 compared to 781 the previous year. A total of 43 claims were received against four livestock dealers' bonds during the year.

Six branding demonstrations were conducted in various parts of the province with good local participation.

Feeder Associations in Alberta

During the year 38 feeder associations operated under the Feeder Associations Guarantee Act.

During the fiscal year $27,761,209 worth of credit was used to purchase 68,710 cattle and 4,080 sheep by 1,217 feeder members. The amount outstanding as of August 31, 1982 was $16,016,453.

Two associations voluntarily disbanded and were dissolved (Andrew Willingdon, Victoria Trail); two associations become insolvent as a result of bad debts (Ponoka East, Taber Feeders) and one association commenced business (Lakeland Feeders, Vermilion).

Three hundred and eighty-five thousand dollars in government guarantee payments were pending as of August 31, 1983 for Ponoka East and Taber Feeders.

1981/82 Feeder Associations

Year End Report

Association	# of Member Accounts	# of Sheep	# of Cattle	Aggregate Credit Used
Acme	43		2,156	1,022,069.04
Andrew	13		411	142,342.13
Barrhead	49		2,427	1,108,760.24
Bashaw	12		780	282,985.53
Battle River	41		3,263	1,466,739.78
Big Valley	26		362	100,149.83
Blindman	48		3,649	1,357,769.86
Bonnyville	12		456	146,829.10
Bowden	41		2,557	1,019,585.18
Carstairs	13		660	228,081.82
Colinton	12		374	149,693.55
Delburne	4		146	72,234.42
East Olds	54		1,892	762,630.38
Ft. Macleod	12	322	222	99,304.38
Glenwood	54		3,217	1,327,371.07
Grande Prairie	26		668	248,835.69
Great West	18		125	46,562.43
Hardisty	56		4,601	2,017,481.51
Innisfail	41		2,478	1,189,080.19
Knee Hill Valley E.	10		197	103,388.65
Lac La Biche	14		366	128,269.33

Association	# of Member Accounts	# of Sheep	# of Cattle	Aggregate Credit Used
Lakeland	17		2,125	670,919.81
Little Bow	36		1,969	736,444.31
Mannville	18		334	129,877.00
Marwayne	44		4,104	1,673,787.30
Mayerthorpe	24		1,750	577,752.60
McLeod River	15		501	175,000.00
Meadowbrook	56		3,917	1,402,184.68
North Peace	32		583	197,641.40
Parkland Stavely	48		2,702	1,083,051.40
Pincher Creek	26		1,402	548,741.21
Ponoka East	18		931	308,675.41
Raven	94		4,983	2,027,148.33
Red Deer	101	3,758	8,573	3,776,179.00
South Eastern	8		844	294,778.65
Taber	17		445	188,328.22
Victoria Trail	8		64	29,414.55
Westlock	56		2,476	921,121.20
1981/82	1,217	4,080	68,710	27,761,209.18
1980/81	1,200	3,441	63,151	28,157,530.47

Summary of Feeder Associations
for Last Eight Years

Feeding Season	# of Assn.	# of Active Members	Cattle	Sheep	Amount of Credit
1974-75	48	1,602	65,295	698	12,429,344
1975-76	41	1,839	72,024	1,299	13,839,724
1976-77	43	1,206	70,147	2,410	13,263,073
1977-78	37	1,092	74,366	2,746	19,578,287
1978-79	37	1,165	73,063	4,090	35,020,548
1979-80	37	1,201	56,312	2,923	27,315,695
1980-81	37	1,200	63,151	3,441	28,157,530
1981-82	38	1,217	68,710	4,080	27,761,209

Staff Changes

Rocky Houff joined the brand inspection staff at Medicine Hat.

Rudy Evenson resigned after 17 years of service to the department and Don Hockley assumed his duties as brand inspector in charge of the Calgary Brand Office.

Association	# of Member Accounts	# of Sheep	# of Cattle	Aggregate Credit Used
Lakeland	17		2,125	670,919.81
Little Bow	36		1,969	736,444.31
Mannville	18		334	129,877.00
Marwayne	44		4,104	1,673,787.30
Mayerthorpe	24		1,750	577,752.60
McLeod River	15		501	175,000.00
Meadowbrook	56		3,917	1,402,184.68
North Peace	32		583	197,641.40
Parkland Stavely	48		2,702	1,083,051.40
Pincher Creek	26		1,402	548,741.21
Ponoka East	18		931	308,675.41
Raven	94		4,983	2,027,148.33
Red Deer	101	3,758	8,573	3,776,179.00
South Eastern	8		844	294,778.65
Taber	17		445	188,328.22
Victoria Trail	8		64	29,414.55
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POOR

QUALITY

ORIGINAL